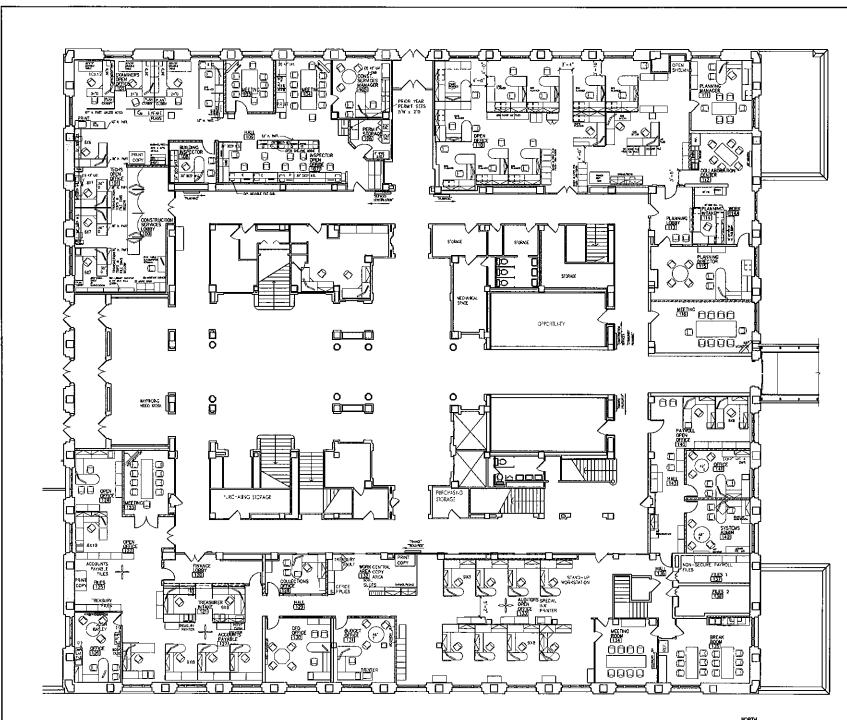


& 2

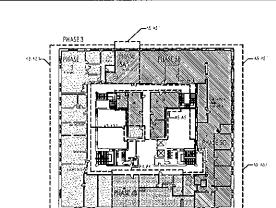




1 ST FLOOR FURNITURE AND FILES LAYOUT - PHASE 1 AND 2 - FOR REFERENCE ONLY FOR MECHANICAL, ELECTRICAL & DATA REFERENCE COORD NATE AS REQUIRED.

PHASE 1 & 2

SERVER ROOM (223)







LAYOUT

RW Fern Associates Inc. Arc DUEUTH CITY HALL - PI INTERIOR RENOVATIONS 411 WEST FIRST SIREET. OUUDH. N

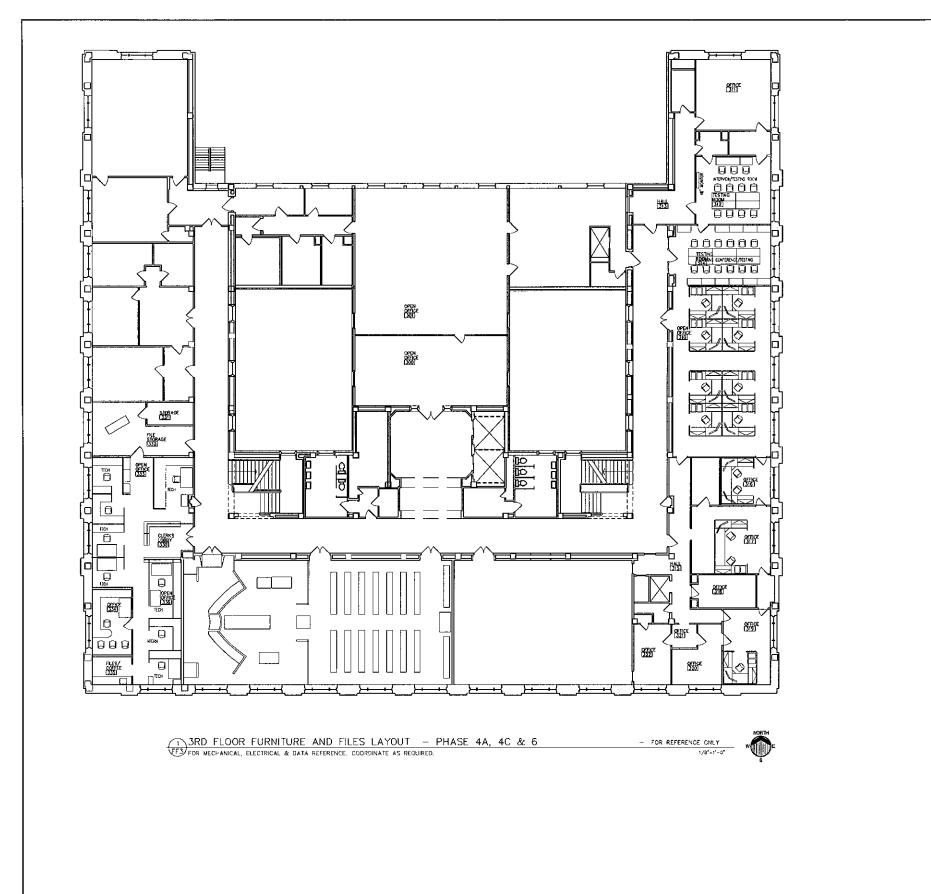


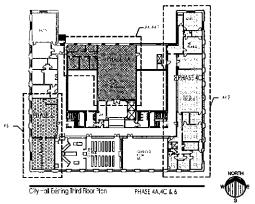
2ND FLOOR FURNITURE AND FILES LAYOUT - PHASE 3, 4B, 5A ,5B,& 5C - FOR REFERENCE ONLY FOR WECHANICAL, ELECTRICAL & DATA REFERENCE, COORDINATE AS REQUIRED.

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FLR FURNITURE AND PHASE 4A, 4C &

RW Fern Associates Inc. Architect, 413 East Superior Street, Duluth. Minnesota 55802 (218) 722-8271 DULUTH CITY HALL — PROJECT # 17—426 HINTERIOR RENOVATIONS 411 WEST FIRST STREET, DULUTH MIN. 55802

PHASE 4A, 4C & 6 LNE IS TWO REPUTES

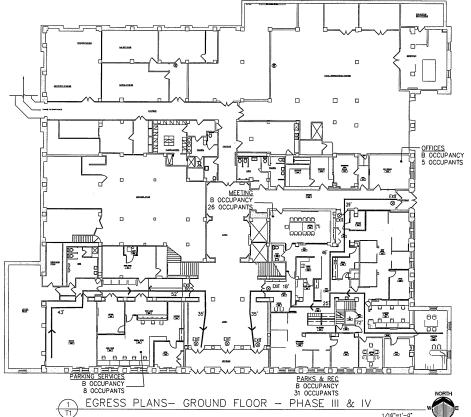
WITHUI SCALE OF IT SCALE SHEET

SE HELD 27 - SCALE RECOGNISHS

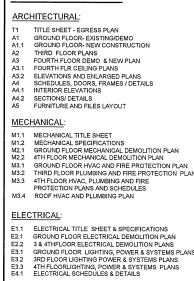


DULUTH CITY HALL - PROJECT # PFM20

INTERIOR RENOVATIONS - GROUND FLOOR, THIRD FLOOR, FOURTH FLOOR 411 WEST FIRST STREET, DULUTH, MINNESOTA 558O2



2 EGRESS PLANS- THIRD FLOOR- PHASE II



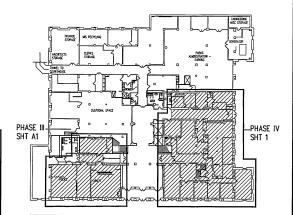
SHEET INDEX

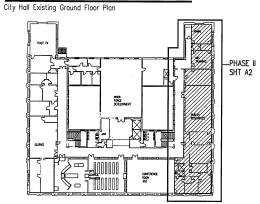


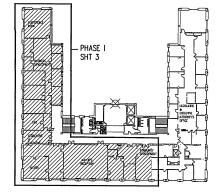


Minimum Plumbing Fixtures: Existing toilet rooms to remain as is

This project does not change occupant load.



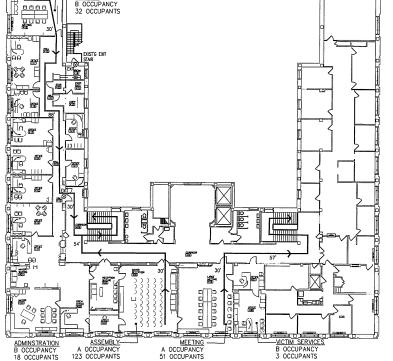




KEY PLAN OF PROJECT AREA







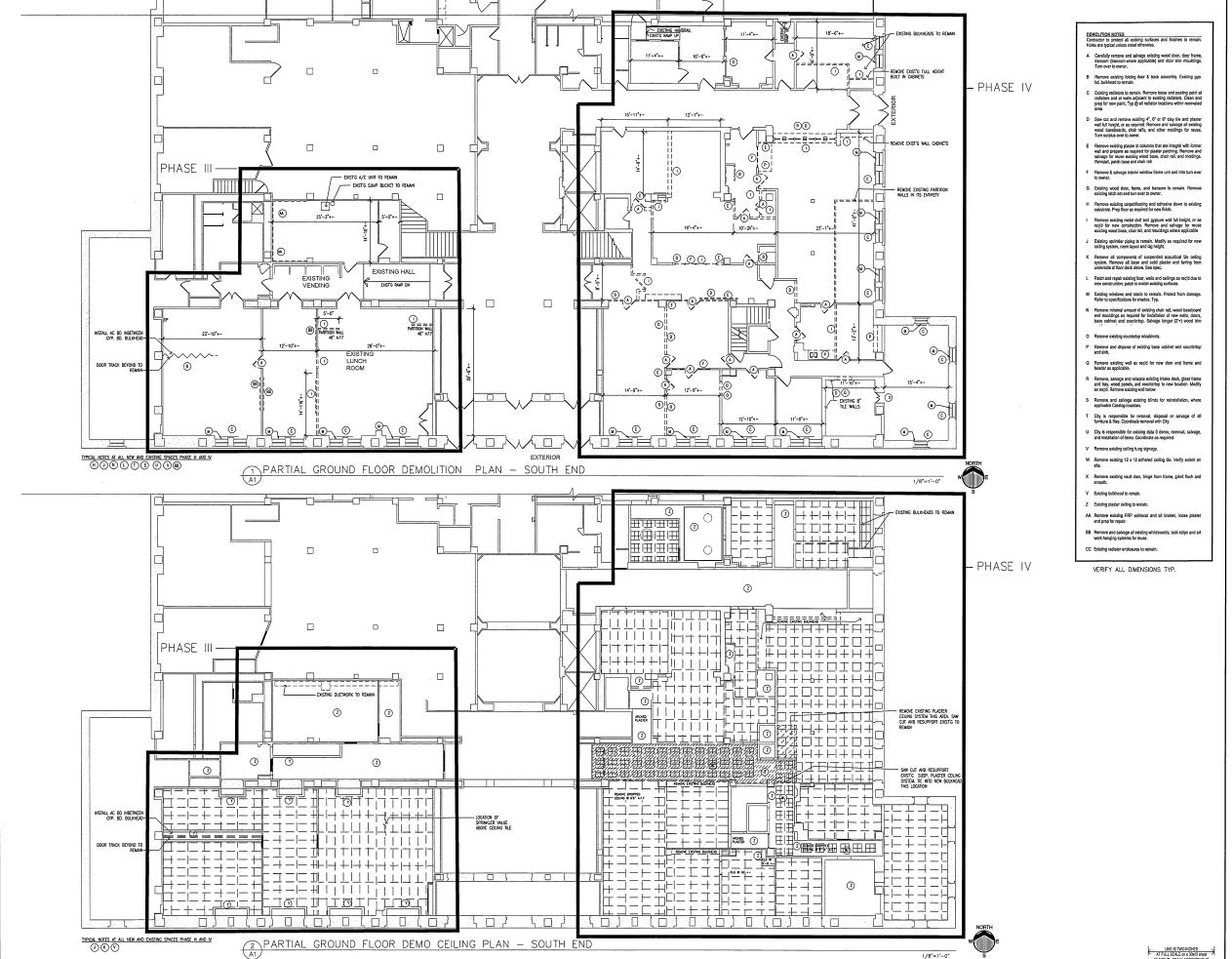


CITY HALL - PROJECT #
RENOVATIONS- GROUND
RST STREET, DULUTH, MN. 55802

5517

SHEET

3 EGRESS PLANS- FOURTH FLOOR- PHASE





Specification, or report

my direct supervision

ARCHIECT

MANNESOTA

TAMILLO

B. No. 20088

I hereby certify that the plan, spewes proposed by me or under my cond that land or duly Lennad Long the sold of ROBERT FERN

ROBERT FERN

The sold of ROBERT FERN

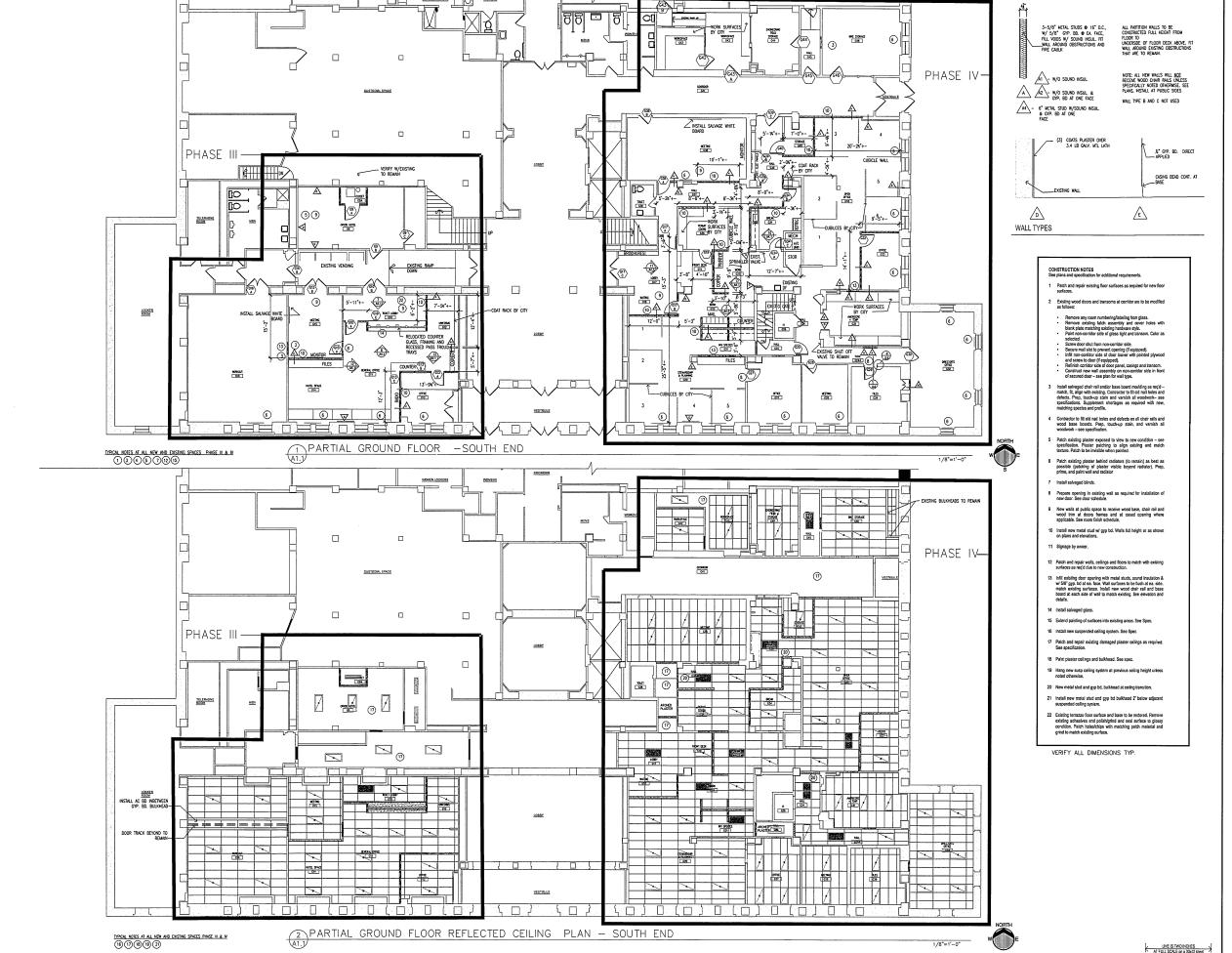
The sol

GROUND FLOOR EXISTING/DEMO

Duluth, Minnesota 55807 (218) 722-8271 5517 Grand Ave, PFM20 FLOOR PROJECT # F S- GROUND B MN. 55802 Architects, 4 RW Fern Associates Inc. DULUTH C INTERIOR 411 WEST FIRS

2471 Drown By Shart 2

1/8"=1'-0"





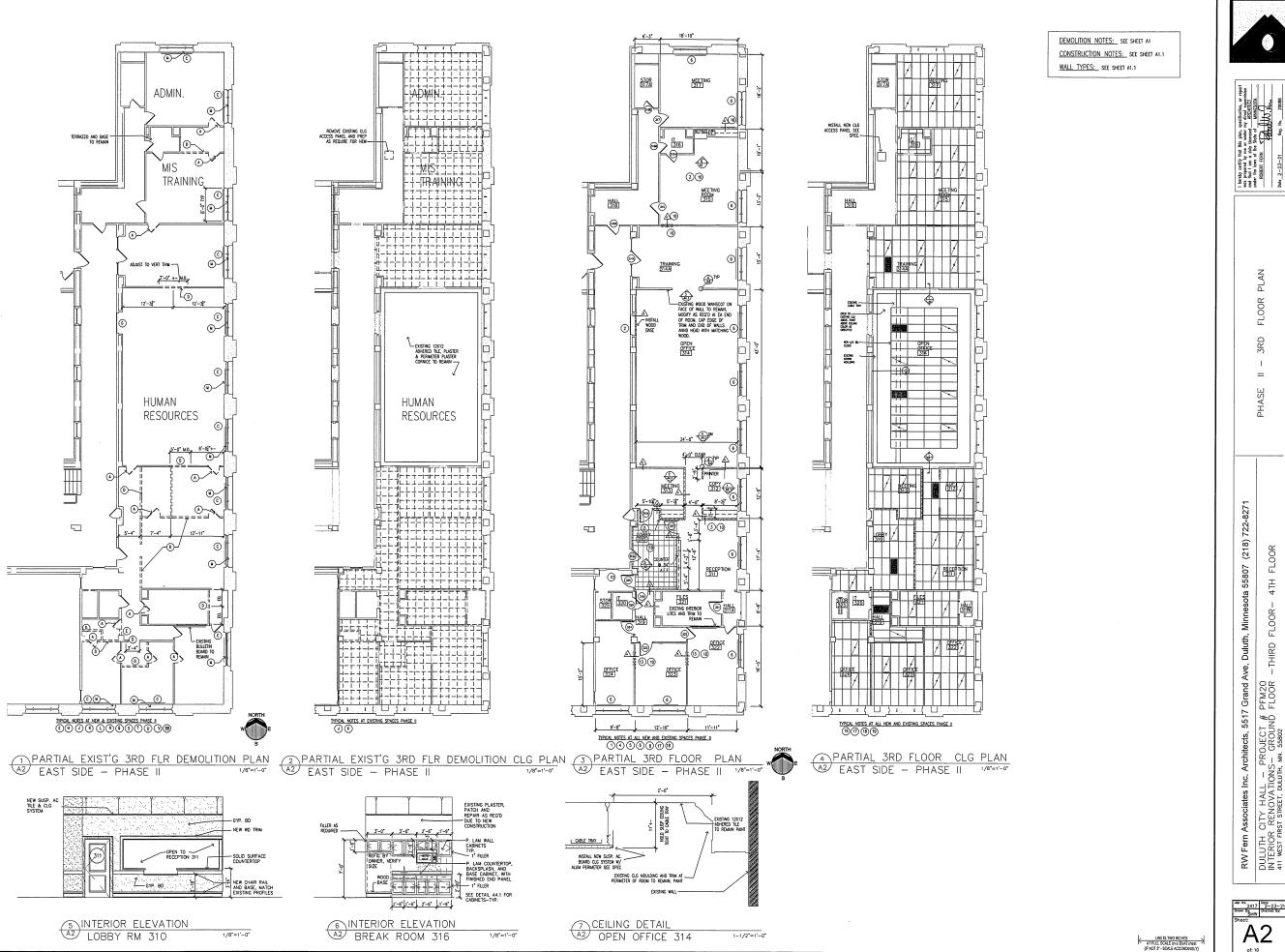
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| Consideration of the solute of <u>MANIESTAN</u> | Consideration of the love of the solute of <u>MANIESTAN</u> | Consideration of <u>MANIESTAN</u> | Consid

GROUND FLOOR NEW CONSTRUCTION

(218) 722-8271 Minnesota 55807 Architects, 5517 Grand Ave, Duluth, DJECT # PFM20 GROUND FLOOR 55802

2471 2-23-2 Drawn By SMW Drawer 22 Sheet:





PLAN

3RD

=

PHASE

Minnesota 55807 (218) 722-8271 RW Fern Associates Inc. Architects, 5517 Grand Ave, Duluth, DULUTH CITY HALL - PROJECT # PFM20 INTERIOR RENOVATIONS- GROUND FLOOR 411 WEST FIRST STREET, DULUTH, MN. 55802

2417 Dote 2-23-21 Trown By. Sheet: A2

DEMOLITION NOTES: SEE SHEET A1 CONSTRUCTION NOTES: SEE SHEET A1.1 WALL TYPES: SEE SHEET A1.1





4TH PHASE I

RW Fern Associates Inc. Architects, 5517 Grand Ave, Duluth, Minnesota 55807 (218) 722-8271

DULUTH CITY HALL — PROJECT # PFM20

NINTERIOR RENOVATIONS— GROUND FLOOR — THIRD FLOOR— FOURTH FLOOR

411 WEST FIRST STREET, DULUTH, MN. 55802

Job No. 2417 | Dole 2-23-21 | Drown By: SMW | Checked By: 22 | Checked By: 23 | Checked By: 24 | Checked By: 24 | Checked By: 25 | Checked By:

A3

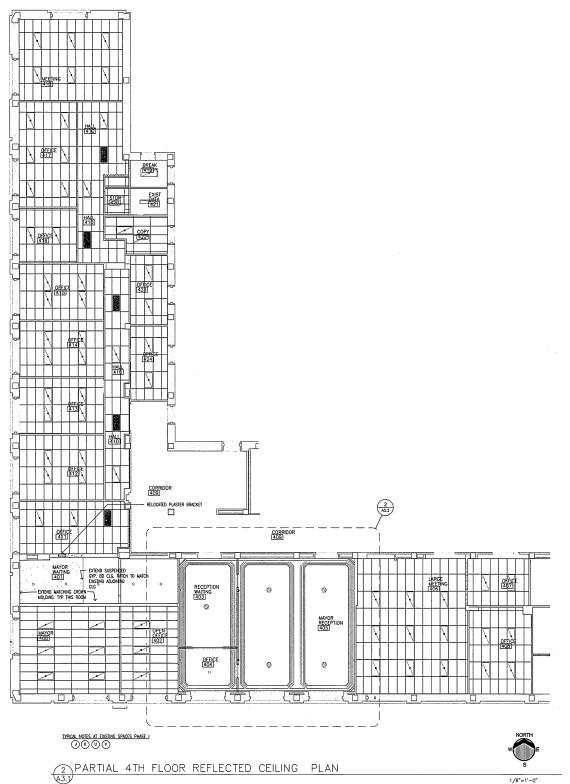
0000 OFFICE 417 (A) $^{\rm H}$ AFFECT OF HALL 410 \oplus OFFICE 3 OFFICE 423 **√**© \oplus 0 **W** 00 $oldsymbol{\mathbb{H}}$ OFFICE 414 (A) <u>_</u>© *****-• OFFICE 413 -0 `>-@ \oplus <u>_</u>© Œ OFFICE 412 $^{\rm H}$ $\mathbb{H}^{\mathbb{L}}$ \oplus EXISTING MAYORS RECEPTION 1 \oplus 3 EXISTING OFFICE \oplus OFFICE 408 $oldsymbol{\Theta}$ Θ \oplus 2 PARTIAL 4TH FLOOR PLAN
A3 WEST SIDE PARTIAL EXISTING 4TH FLOOR DEMOLITION PLAN

(A3) WEST SIDE LINE IS TWO INCHES
AT FULL SCALE on a 30x42 sheet
(IF NOT 2" - SCALE ACCORDINGLY)

DEMOLITION NOTES: SEE SHEET A1

CONSTRUCTION NOTES: SEE SHEET A1.1

WALL TYPES: SEE SHEET A1.1





hereby earlity heal this plans, specification, or report on the control of the co

4TH FLOOR CEILING PLANS

RW Fern Associates Inc. Architects, 5517 Grand Ave, Duluth, Minnesota 55807 (218) 722-8271 DULUTH CITY HALL PROJECT # PFM20 INTERIOR RENOVATIONS— GROUND FLOOR — THIRD FLOOR— FOURTH FLOOR 411 WEST PRIST STREET, DULUH, MN. 55802

| Month | Mont

PARTIAL 4TH FLOOR REFLECTED CEILING DEMOLITION PLAN

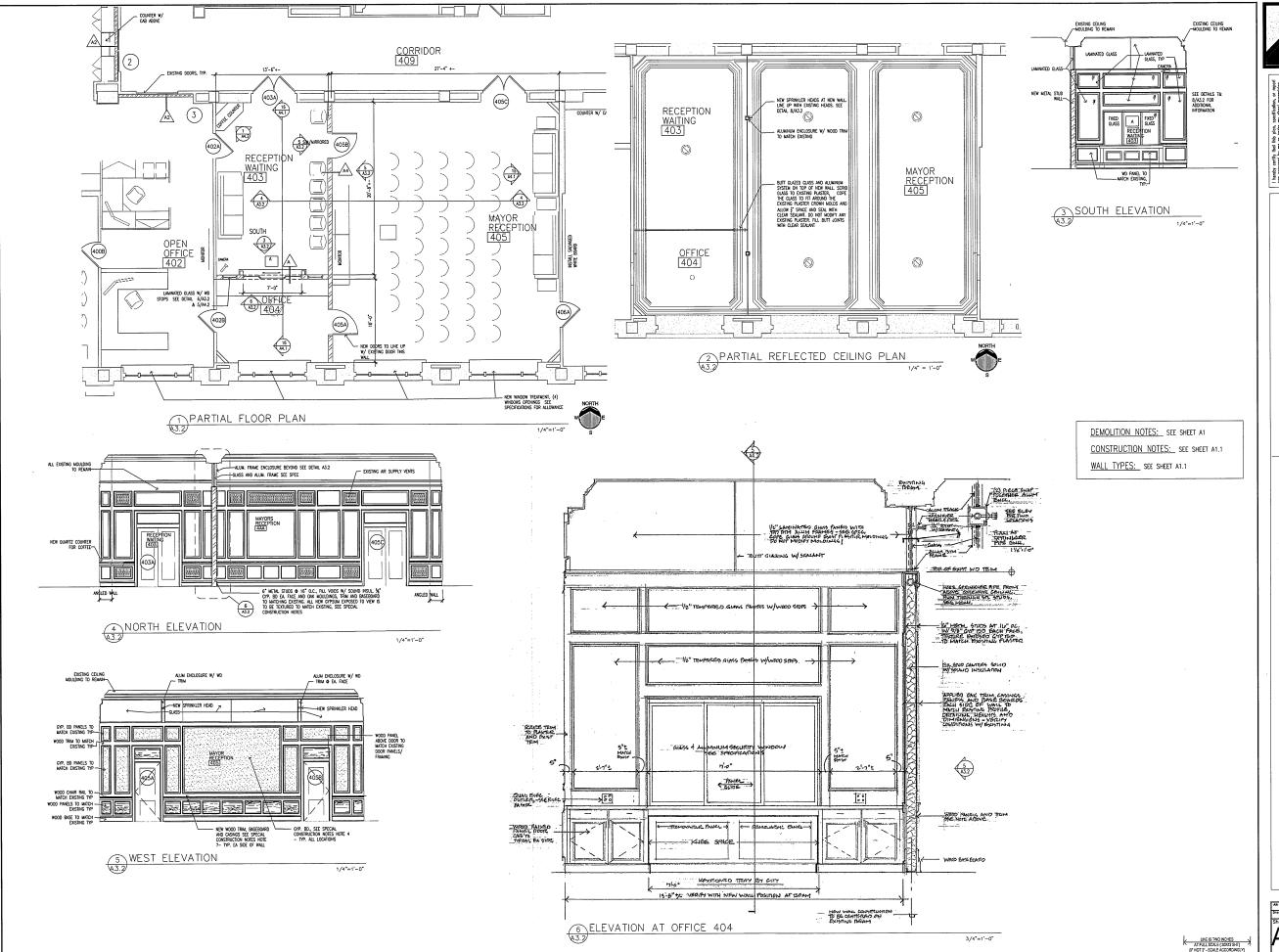
+

REMOVE AND
RELOCATE
EXISTING
PLASTER
BRACKET

REMOVE EXISTING CHANDALIER,"
SEE ELECTRICAL SHTS

TYPICAL NOTES AT EXISTING SPACES PHASE !

LINE IS TWO INCHES
AT FULL SCALE (30X42 SHT)
(IF NOT 2" - SCALE ACCORDINGLY)



| hereby certify had the plan, specification, or or or control or

PLANS ENLARGED AND

FLOOR

FOURTH

THIRD

(218) 722-8271 Min RW Fern Associates Inc. Architects, 5517 Grand Ave, Duluth, DULUTH CITY HALL PROJECT # PFM20 INTERIOR RENOVATIONS— GROUND FLOOR 411 WEST FIRET, STREET, DULUTH, MN. 55802

Drawn By Checked By FW Sheet: Ä3.2

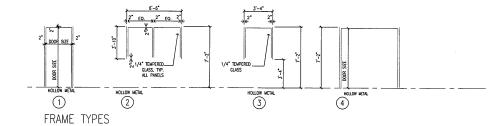
## PROOM NAME FLOOR (I) BASE MALLS (IXK)(IXK)(IXK)(IXK)(IXK)(IXK)(IXK)(IXK)			,		$\overline{}$	OIVI	1 11 1	1011		DOLL				
March Marc	_		ROOM NAME		FLC	OR (1)				WALLS (3)(4)(5),	(6)(7)(8)(9)	CEILIN	G (10)(11) G (12)	REMARKS
20 100		NO.		mo	ťì.	fin.	(2)	NORTH	EAST	SOUTH	WEST	mat'l.	ht.	
20 100	≸													
19 19 19 19 19 19 19 19		G9	09:00 HOTEL	CC	INC.	CARPET	DUST, NEW WO	EXIST. /PLAS./GYP. BD	EXIST. PLAS./GYP. 80	EXST. PLAS./PLAS	DUST. /PLAS./GYP. BO	EXIST PLAS		
19 19 19 19 19 19 19 19	FS.	G9A	CLOSET			DOST	EXIST	EXST. PLAS.	G1P. BD	GYP. BD	GYP. BD	EXIST PLAS	_	
19 19 19 19 19 19 19 19	= 2	610	TICKET LOSBY			TERRAZZO	TERRAZZO	EXIST, PLAS.	G12, 80	GYP. BD	EXIST. PLAS.	SUSP. ACT.		· WATCH EXISTING CLG HEIGHT
19 19 19 19 19 19 19 19	2,22	G11	CENERAL OFFICE			CARPET	EXIST, NEW NO	CYP. BD	EXST. PLAS.	DIST. PLAS.	EXIST. PLAS.	DOST, PLAS.	_	
0.5 0.75 0		G12	UNFORMS			CARPET	EDUST/NEW WO	EXIST. PLAS.	EXIST. PLAS.	GYP. BD.	GYP. BD	SUSP. ACT	10'+- *	. NATCH EXISTING CLG HEIGHT
Column	A 8	G13	OFFICE	T		CARPET	DUST/NEW NO	CYP.EO,	EXST. PLAS.	DOST, PLAS	CYP. BD	SUSP. ACT	10'+- *	· NATCH EXISTING CLG HEIGHT
Column	l ≨8	G14	HOTEL SPACE	Т		CARPET	EXIST/NEW WO	EXST. PLAS	GYP. BD	EXIST, PLAS	EXST. PLAS/GYP.BD.	SUSP. ACT.	11'+- *	• VERFY
Color	8 ₹	G15	MEETING	T	Г	CARPET	EXIST/NEW WD	EXIST. PLAS	EXIST, PLAS.	GYP.BD		SUSP. ACT.	10'+- *	· MATCH EXISTING CLG HEIGHT
67 (39)** Tal. DESTANCE NO. DEST. PLASE NO.		G16	WORKOUT			CARPET	EXIST/NEW WO	DIST. PLAS	EXST, PLAS, /GYP, BO	DOST, PLAS		SUSP. ACT.	10"+ *	· MATCH EXISTING CLG HEIGHT
08		G17	LOBBY			TILE	EXIST /NEW WO	EXST. PLAS/GYP.BD.	GYP.BD.	GYP.BD.		SUSP. ACT.	10'+- *	· MATCH EXISTING CLG HEIGHT
Color		C18	WAITING			TILE	EXIST/NEW WO		CYP.RO.			SUSP. ACT.	10'+- *	· MATCH EXISTING CLG HEIGHT
		G19	FRONT DESK		T	CARPET						SUSP. ACT.	11'+	
Color		620	STEWARD & PLANNING			CARPET					FXCST. PLAS/CYP RD	SUSP. ACT.	10'+- •	· MATCH EXISTING CLG HEIGHT
Column C		G21	NV SPECIES			CARPET	EXIST (NEW WO					SUSP. ACT.	10'+- *	
Companies Comp		622	MORK			CARPET						SUSP. ACT.	10'+- *	. NATCH EXISTING CLG HEIGHT
CAN MAL		623				CARPET						SUSP. ACT.	10'+- *	· NATCH EXISTING CLG HEIGHT
SYAN NAL				-		CARPET			ENST BLAS/CVD DD			SUSP. ACT.	10'+- •	MATCH EXISTING CLG HEIGHT
Control				-	╁								-	
Dest	1			1	-	CARPET								
Column	1			 '	۳			- DAJE TONA	- Trace	EASI, PDIS/GIP.SU.	uir.su.	CUSI, PLAS.		
Company	l			-	-	CARPET	CHET ALTH MO	DMCZ D140 400000	Dec. 0.40	Dec. 2. 10	C-100 C-10	0100 ACT	10'4-	
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2000 2000	1			+	-									- MAICH EAGING CEG REGIT
				-	\vdash	CARRET	CART VICTOR IND						_	* HATCH ENSTRUC OF HEIGHT
	38			+	-									
	<u> </u>			+-	-									
	2,2			1	\vdash							-	_	
	1 5			+	۲									
	88			+	⊢									WATCH EXISTING CLG HEIGHT
	5.8			+-	-		EXIST/NEW WO	GYP.BD.	GYP.BD.	GYP.80.	CYP.BD.	SUSP. ACI.	10+	
	88			+-	┢╾									
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	°¥			₩	⊢									· MATCH EXISTING CLG HEIGHT
681 C0000001 CST CST CST LOST CST LOST LOST LOST LOST LOST LOST LOST LO	-۵			+-	\vdash									
Destrict				├	+						EXIST. PLAS/CYP.BD.		10+	- MAICH EXSING CLG HEIGHT
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				\vdash	<u></u>									
D46 B45 STONUS	1			1	_	EXST	EXIST	EXIST, PLAS.	EXIST, PLAS.	EXIST. PLAS.	EXST. PLAS/CYP, BD.	SUSP. ACT.	10'+ *	* MATCH EXISTING CLG HEIGHT
		G46	BIKE STORAGE	+-	_									
				-	_									
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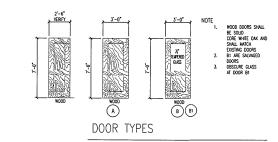
ROOM FINISH SCHEDULE

	ROOM NO.	ROOM NAME	1	^F LO	OR (1)	BASE			WALLS (3)(4)(5)	(6)(7)(8)(9)	CEILING	(10)(11) (12)	REMARKS
	NO.		mai	ľL.	fin.	(2)	NORTH	EAST	SOUTH	WEST	mat'l.	ht.	
		EAST - HUMAN RESOURCES											
=	310	LOBBY	00	NC.	TRLE	EXIST/NEW WD	GYP. BD	GYP. BD	DIST. PLAS./GYP. BD	EXIST. PLAS.	SUSP. ACT.	10'+- *	· MATCH EXISTING CLG HEIGH
ASE	311	RECEPTION	<u></u>	Ш	CARPET	DUST/NEW WO	GYP. BD	G1P. BD	DUST. PLAS./GYP. 80	EXST. PLAS.	SUSP. ACT.	10'+- *	· MATCH EXISTING CLG HEIGH
Ŧ	311A	HALL			CARPET	EXIST/NEW WO	GYP. BD	EXIST, PLAS.	EXST. PLAS.	CYP BD.	SUSP. ACT.	10'+- *	
S	312	COPY			CARPET	DUST/NEW WO	EXST. PLAS/GYP.BD.	EXST. PLAS.	CYP. BD.	GYP. BD	SUSP. ACT	10"+	· MATCH EXISTING CLG HEIG
2	313	MEETING			CARPET	EXIST/NEW WO	EXIST. PLAS/SYP.BD.	GYP. BD	GYP.80.	EXST. PLAS.	SUSP. ACT	10"+- *	MATCH EXISTING CLG HEIGH
TOOR RESOURCES	314	OPEN OFFICE			CARPET	EXIST/NEW WO	EXIST. PLAS/NO WASCT.	EXST. PLAS/NO WHSCT.	EXST. PLAS/GYP.BD.	EXIST, PLAS/ND WASCT.	SUSP. ACT.	11'+- *	• VERFY
65 S	314A	TRANNG			CARPET	EXIST/NEW WO	EXST. PLAS/GYP.80.	EXIST. PLAS.	DOST, PLAS.	EXIST. PLAS.	SUSP. ACT.	10"+- *	· WATCH EXISTING CLG HEIG
	315	MEETING ROOM		Ш	CARPET	EXIST/NEW WO	EXIST, PLAS/GYP.80.	EXIST. PLAS.	EXST. PLAS/GYP.BD.	EXST. PLAS.	SUSP. ACT,	10"+- *	· MATCH EXISTING CLG HEIGH
UMAN	316	σ		L	vct	EXIST NO	EXST. PLAS	EXIST. PLAS.	EXIST PLAS.	EXIST, PLAS.	SUSP. ACT.	10'+- *	· MATCH EXISTING CLG HEIG
~ ∃	317	MEETING			CARPET	EXIST/NEW WO	EXIST. PLAS.	EXST. PLAS.	EXST. PLAS.	EXIST. PLAS.	SUSP. ACT.	10'+- •	· MATCH EXISTING CLG HEG
	317A	STORAGE			EXIST								
	318	HALL			EXIST	EXIST/NEW WO	EXIST. PLAS.	EXST. PLAS.	EXST. PLAS.	EXST. PLAS.	EXIST. PLAS.		
	319	RALL			CARPET	EXIST/NEW WO	EXST. PLAS/GYP.80.	EXST. PLAS/GYP.BD.	EXST. PLAS.	EXST. PLAS/GYP.BD.	SUSP. ACT.		· MATCH EXISTING CLG HEIGH
	320	п	_	\sqcup	ExiST								
	321	FLES			CARPET	EXST/NEW WD	EXST. PLAS.	EXST. PLAS	EXST. PLAS.	EXST. PLAS/GYP.BD.	SUSP. ACT.	10'+ *	· MATCH EXISTING CLG HEIG
	322	OFFICE			CARPET	EXIST/NEW WO	EXST. PLAS.	EXST. PLAS.	EXST. PLAS.	EXST. PLAS/GYP.BD.	SUSP. ACT.	10'+- *	MATCH EXISTING CLG HEIGH
	323	OFFICE			CARPET	EXIST/NEW WO	EXST. PLAS.	EXST. PLAS/GYP.80.	EXST. PLAS.	EXST. PLAS/GYP.BD.	SUSP. ACT.	10'+- *	· MATCH EXISTING CLG HEIGH
	324	OFFICE	L		CARPET	EXIST/NEW WO	EXST. PLAS.	EXST. PLAS/GYP.80.	EXST. PLAS.	EXST. PLAS.	SUSP. ACT.	10"+- *	* MATCH EXISTING CLG HEIGH
	325	STORAGE	=		VCT	EXIST	EXIST, PLAS.	EXST. PLAS.	EXST. PLAS.	EXST. PLAS.	SUSP. ACT/EXIST		

ROOM FINISH SCHEDULE

	ООМ	ROOM NAME		FLO	OR (1)	BASE			WALLS (3)(4)(5)	(6)(7)(8)(9)	CEILIN	G (10)(11) G (12)	REMARKS
N	U.		mo	ťž.	fin.	(2)	NORTH	EAST	SOUTH	WEST	mat'l.	ht.	
40	ж	MAYOR	CI	INC.	EXISTING	EXIST	EXIST, PLAS.	DUST, PLAS.	DUST, PLAS,	EXIST. PLAS.	SUSP. ACT.	10"+- *	· MATCH EXISTING OLG HEIG
40	71	MAYOR WATING			CARPET	EXIST/NEW WO	EXIST, PLAS.	DOST, PLAS.	EXIST, PLAS.	DUST. PLAS.	PLASTER .	10'+- *	· WATCH EXISTING CLG HEIG
40.	02	OPEN OFFICE		\perp	CARPET	EXST/NEW WO	EXST. PLAS./GYP.BD	EXST. PLAS.	EXIST. PLAS.	EUST. PLAS.	EXIST, PLAS/ SUSP ACT	10"+- *	MATCH EXSTING CLG HEIG
40.	33	RECEPTION WAITING			CARPET	EXIST/NEW WO	EXIST, PLAS	EXIST, PLAS.	GYP. 80./WD	EXIST. PLAS.	EXIST, PLAS.		SEE INTERIOR ELEVATIONS
- 40	ж.	OFFICE		\perp	CARPET	EXST/NEW WO	EXIST. PLAS/GYP.80.	EXIST, PLAS.	EXIST PLAS	EXIST. PLAS.	EXIST. PLAS.		SEE INTERIOR ELEVATIONS
AS &	25	MAYOR RECEPTION			CARPET	CW W2W\TEX3	EXST. PLAS	EXST. PLAS	EXIST. PLAS	EXIST. PLAS	EXIST, PLAS.		SEE INTERIOR ELEVATIONS
PHASE	×6	LARGE MEETING			CARPET	EXST/NEW WO	EXST. PLAS/GYP.80.	EXST. PLAS. / GYP BD.	EXIST. PLAS.	EXIST. PLAS	SUSP. ACT.	10"+ *	· MATCH EXISTING CLG HEI
Z 40	77	omes			CARPET	EXIST/NEW WO	DOST PLAS	EXIST. PLAS.	EXIST. PLAS/GYP.80.	GYP.80.	SUSP. ACT.	10"+- •	MATCH EXISTING CLG HEI
ADMINISTRATION	Ne Se	OFFICE			CARPET	EXST/NEW WO	EXST. PLAS/G1P.80.	EXIST. PLAS.	EXIST PLAS	EXIST. PLAS /GYP	SUSP. ACT.	10'+- *	MATCH EXSTING OLG HE
≧ L∞	9	CORROOR			CARPET							_	
¥10	0	HALL			CARPET	EXST/NEW WO	EXIST. PLAS/GYP	EXIST, PLAS.	EXIST, PLAS	EXIST. PLAS.	EXIST, PLAS.	11'+	
\$ 411	1	OFFICE			CARPET	EXIST/NEW WO	EXST. PLAS	EXIST. PLAS/GYP.80.	EXIST. PLAS.	EXIST, PLAS/GYP.80.	SUSP. ACT.	10"+ *	- MATCH EXISTING CLG HE
₹ 41 2	2	ornoz			CARPET	EXST WO	DIST. PLAS.	EXST. PLAS.	EXST. PLAS.	EUST, PLAS.	EXIST, PLAS/ SUSP ACT	_	
413	3	OFFICE			CARPET	EXST/NEW WO	EXST. PLAS.	EXST. PLAS.	EXIST. PLAS.	EXIST. PLAS	SUSP. ACT.	10"+- •	· MATCH EXISTING CLG HE
414	4	OFFICE			CARPET	EXIST/NEW WO	EXST. PLAS.	EXIST. PLAS	EXST. PLAS	EXIST. PLAS	SUSP. ACT.	10"+- •	· MATCH EXISTING CLG HE
415	5	OFFICE			CARPET	EXIST/NEW WO	EXIST. PLAS.	EXIST, PLAS	EXIST. PLAS.	EXIST. PLAS.	SUSP. ACT.	10"+- •	MATCH EXISTING CLG HE
416	6	OFFICE			CARPET	EXST/NEW WO	DOST. PLAS./GYP. BD	EXIST. PLAS	EXIST. PLAS	EXIST, PLAS	SUSP. ACT.	10"+- *	· MATCH EXSTING CLG HE
417	7	OFFICE			CARPET	EXST/NEW WO	GYP, BD	GYP. BD	EXIST/GYP. BD.	EXIST, PLAS	SUSP. ACT.	10"+~ *	
418	8	MEETING			CARPET	EXST/NEW WO	EXIST, PLAS.	GYP.80.	GYP BD.	EXIST. PLAS	SUSP. ACT.	10'+- *	- MATCH EXISTING CLG HE
415	9	BREAK			CARPET	EXST/NEW WO	EXIST. PLAS.	EXST. PLAS.	EXIST./GYP. BD.	EXIST, PLAS/GYP.BD.	SUSP. ACT.	10"+- *	MATCH EXISTING OLG HE
420	10	STORAGE			CARPET	EXIST/NEW WO	GYP. BD	EXIST. PLAS	GYP BD.	GYP.BD.	SUSP. ACT.	10"+ *	· MATCH EXSTING CLG HE
421	n n	EXISTING DATA ROOM		П	CARPET	EXST/NEW WO	DOST. PLAS.	EXIST. PLAS	EXIST. PLAS.	EXIST, PLAS.		_	
423	12	COPY ROOM			CARPET	EXIST/NEW WO	Exist,/CYP. BD.	Exist.	EXIST./GYP. BD.	GYP. BD.	SUSP. ACT.	10'+- *	
42	13	OFFICE			CARPET	EXIST/NEW WO	EXIST.	Dist.	EXIST.	EXIST.	SUSP. ACT.	10'+- *	
424	14	OFFICE	Π,		CARPET	EXST/NEW WO	EXIST.	Exist.	Exist.	EXIST.	SUSP. ACT.	10'+- •	
						1							





DOOR SCHEDULE

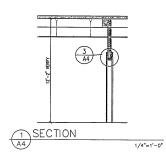
	DOOR		SIZE		DOOR	FRAME	JAMB 1		REMARKS
≡	NO.	w.	h.	t.	TYPE	TYPE		SEE SPEC.	
/R _ RECREATION PHASE									
₫.	G9A	3'-6"		1 3/4"	A	1	METAL STUD		
Z	G9B	EXISTING							CARD ACCESS
2	G9C	EXISTING	book		_				
⋖	G10A	3'-0"	7'0"	1 3/4"	A	1	METAL STUD		CARD ACCESS
, 22	G10B	EXISTING	DOOR						
-, ⊞	G10C		=						TICKET WINDOW
O FLOOR AND RE	G13A	3'-0"	7'-0"	1 3/4"	В	1	METAL STUD		
90	G13B	6'-6"	3'~10"			2	METAL STUD		WINDOW
ŒΖ	G13C	3'-4"	3'10"			3	METAL STUD		WINDOW
9.	G15A	3'-0"	7'-0"	1 3/4"	В	1	CLAY TILE		
\$₩	G15B	EXISTING	0008						CARD ACCESS
GROUND PARKS A	G16A		DOOR						CARD ACCESS
0 G	G16B	EXISTING		_					CARD ACCESS
			f						UNIO NUULUU
					 				
	i –				i				
	EAST								
	G17A	3'-0"	7'-0"	1 3/4"	В	1	1/2 N 1/2		CARD ACCESS
	G17B	3'-0"	7'-0"	1 3/4"	В	1	METAL STUD		CARD ACCESS
	G17C	EXISTING	DOOR				METAL STOR		CARD ACCESS ?
	G19	3'-0"	7'-0"	1 3/4"	В	1	1/2 N 1/2		
	G25	3'-0"	7'-0"	1 3/4"	A	1	CLAY TILE		VERIFY DIMENSIONS ON SITE AND ADJU
	G27		DOOR						
≥	G28		DOOR	_					
	G29	3'-0"		1 3/4"	Α	1	CLAY TILE		
S	G30		DODR				-		
PHASE	G32	3'-0"	7'-0"	1 3/4"	В	1	METAL STUD		
	G34A	3'-0"		1 3/4"	В	EXISTING	METAL STUD		VERIFY SIZE
8	G34B	3-0"	7'-0"	1 3/8*	В	1	METAL STUD		VERIFT SIZE
Ĕ	G34C	3'-0"		1 3/4	Ā	1	1/2 N 1/2		
Υ	G38A	3'-0"	7'-0"	1 3/4"	Â	1	METAL STUD		
18	G38B	EXISTING				<u> </u>			CARD ACCESS
~띮	G39A	2) ?		1 3/4"	Α.	4	METAL STUD	VED	FY CLEARANCES AT ELEC. PANELS W/
FLOOR - AND RECREATION	G39B	2) ?		1 3/4	Â	4	MEINE SIUU	VER	FY CLEARANCES AT ELEC. PANELS W/
원	G39C	EXISTING				1		T-EN	
~ ×	G40	3'-0"		1 3/4"	Α.	-	METAL STUD		CARD_ACCESS
GROUND PARKS	G42	EXISTING		1 3/4	_^	1	METAL STUD		
28	G43A	EXISTING	none						CARD ACCESS
84	G43B	EXISTING		_		-			CARU ACCESS
- C	G44	EXISTING		_					
	G45	EXISTING				-		-	0100 100000
	G46	EXISTING		=	_				CARD ACCESS
	U-10								CARD ACCESS

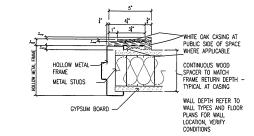
DOOR SCHEDULE

		DOOR NO.		SIZE		DOOR TYPE	FRAME TYPE	JAMB 1	UL	HDWR	REMARKS
		NO.	w.	h.	t.		ITPE	İ	LABEL		
ı	=	310A	3,-0,	7'-0"	1 3/4"	A	1	METAL STUD			CARD READER
ı	1	310B	EXISTING	DOOR			-				
ı	SE	311	3'~0"	7'-0"	1 3/4"	В	1	METAL STUD			CARD READER
Į	PHA	314A	EXISTING		_						CARD READER
ı	1 4	315	EXISTING		_		_				
ı	S	316A	EXISTING	DOOR	_						
ı	نق ا	3168	EXISTING	DOOR	-						
ı	2	317	EXISTING				_				
ľ	ΙË	318A	EXISTING	DOOR			_				CARD READER
ı	SOURCE	318B	EXISTING	DOOR			_				
ı	8 %	319	3'-0"	7'~0"	1 3/4"	A	1	METAL STUD			CARD READER
ı	8 5	320	EXISTING	DOOR							
۱	FLOOR AN RE	321	3'-0"	7'-0"	1 3/4"	A	1	CLAY TILE			
ı		322	EXISTING	DOOR	_	-					
۱	THIRD HUM,	323	3'-0"	7'-0"	1 3/4"	В	1	1/2 N 1/2			
۱	压工	324	3,-0,	7'-0"	1 3/4"	В	1	1/2 N 1/2			
١		325	3'-0"	7'-0"	1 3/4"	A	1	1/2 N 1/2			VERIFY DIMENSION
ı											
ı	1										

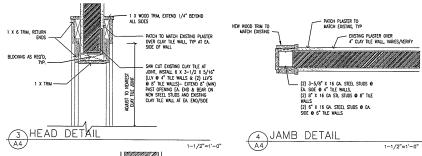
DOOR SCHEDULE

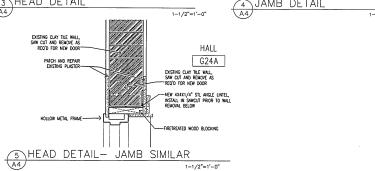
	DOOR		SIZE		DOOR	FRAME	JAMB ,	UL	HDWR	REMARKS
	NO.	W.	h.	t.	TYPE	TYPE		LABEL		
	400A	EXISTING	DOOR	<u> </u>		_				
il	400B	EXISTING	DOOR	1=						
-	402A	EXISTING								
ll K	402B	EXISTING				_				CARD ACCESS
¥	403A	EXISTING	DOOR							
PHA	405A	3'-0"	7'-0"	1 3/4"	A	1	METAL STUD			CARD ACCESS
	405B	3'-0"	7'-0"	1 3/4"	Α	1	METAL STUD			CARD ACCESS
FL00R ATION	405C	EXISTING								CARD ACCESS
1185	406A	EXISTING		I					_	
FLOOR ATION	405B	(1)2-0,(1)1-1	7-0	1 3/4"	A	EXIST WD	EXIST WD			CARD ACCESS METALL NEW C MALION
= E	407A	02-0 mp.	E17"-0"	1 3/4*		EXIST WD	EXIST WD			EXSTRIC FRAME TO BE REUSED, INSTALL NEW 4" MALIE
FOURTH A	407B	3,-0,	7'-0"		Α	1	METAL STUD			VERIFY EXISTING DOOR R.O.
∥8z	408	3'-0"	7'-0"	1 3/4"	B1	1	METAL STUD			CARD ACCESS
Ε Σ	410	EXISTING								CARD ACCESS
11 2	413	EXISTING				_				
`	414	EXISTING								
	415	EXISTING								
	416	3'-0"	7'-0"	1 3/4"	B1	1	METAL STUD			
	417	3'-0"	7-0	1 3/4"	B1	1	METAL STUD			
	418	3'-0"	7'-0"	1 3/4"	B1	1	METAL STUD			
1	420	3'-0"	7'-0"	1 3/4"	A	1	METAL STUD			
1	422	3'-0"	7'-0"	1 3/4"	В	1	METAL STUD			
11	423	3,-0,	7'-0"	1 3/4"	B1	1	METAL STUD			
11	424	3'-0"	7'-0"	1 3/4"	B1	1	METAL STUD			
11										
				L						
	1 IAMBS	1/2 N 1	O NEW	S 1 SIDE	METAL STIL	DE ONE CIL	OF CLAY THE			





2 DETAIL AT INTERIOR DOOR FRAMES





GENERAL ROOM FINISH NOTES:

- EDITION. BOWN DIVISION DOTES:

 (1) ALL FLOOR SURFICES WHITH DEPARTMENT ARE TO RECEME NEW FLOOR TREATMENTS UNLESS NOTED AS DISTING ON TO REMAIN ALL FLOORS ARE TO PER PROPERTION AND LICELED AS DECTOR NEW CONCERNS. PROVIDE TRANSPORT FLOOR FILLES AT DISTING WILLS TWIN MISTER RELAYED AND TEATHER OUT TO PROMOME WILLS AND THE RELAYED AND TEATHER OUT TO PROMOME WILLS WHITE A WILL SHOW DEED AND THE RELAYED AND TEATHER OUT TO RECEME WILL SHOW THE RELAYED AND TEATHER OUT TO RECEME WILL SHOW THE RELAYED AND TEATHER OUT TO RECEME AND WILL SHOW WILL SECTIONS GENERALLY TO RECEME AND WILL SHOW WILL SECTIONS GENERALLY TO RECEME AND WILL SHOW WILL SECTION SECRETARY TO RECEME AND WILL SHOW THE PROMOME SHOW THE RELAYED AND ALLOW WHITE RELAYED AND ALLOW WILL SHOW SHOW THE PROMOME SECRETARY TO RECEME AND ALLOW WILL SHOW THE PROMOME SECRETARY TO RECEME AND ALLOW WILL SHOW THE PROMOME SECRETARY TO RECEIVE AND ALLOW WILL SHOW THE PROMOME SECRETARY TO RECEIVE AND ALLOW WILL SHOW THE PROMOME SECRETARY TO RECEIVE AND ALLOW WILL SHOW THE PROMOME SECRETARY TO RECEIVE AND ALLOW WILL SHOW THE PROMOME SECRETARY TO RECEIVE AND ALLOW WILL SHOW THE PROMOME SECRETARY TO RECEIVE AND ALLOW WILL SHOW THE PROMOME SECRETARY TO RECEIVE AND ALLOW WILL SHOW THE PROMOME SECRETARY TO RECEIVE AND ALLOW WILL SHOW THE PROMOME SECRETARY TO RECEIVE AND ALLOW WILL SHOW THE PROMOME SECRETARY TO RECEIVE AND ALLOW WILL SHOW THE PROMOME SECRETARY WILL SHOW THE PROMOME SECRETARY TO RECEIVE AND ALLOW WILL SECRETARY TO RECEIVE AND ALLOW WILL SHOW THE SAME SECRETARY TO RECEIVE AND ALLOW WILL SECRETARY TO RECEIVE AND ALLOW WILL SECRETARY TO RECEIVE AND ALLOW WILL SECRETARY TO RECEIVE AND ALLOW THE PROMOME SECRETARY TO RECEIVE AND ALLOW THE ALLOW THE PROMOME SECRETARY TO RECEIVE AND ALLOW THE ALLOW THE PROMOME SECRETARY TO RECEI

SPECIAL CONSTRUCTION NOTES FOR ROOMS 403, 404, 405

- 1) All existing floor coverings to be removed down to original floor surface
- 2) See specification for allowances for new carpet and window treatments

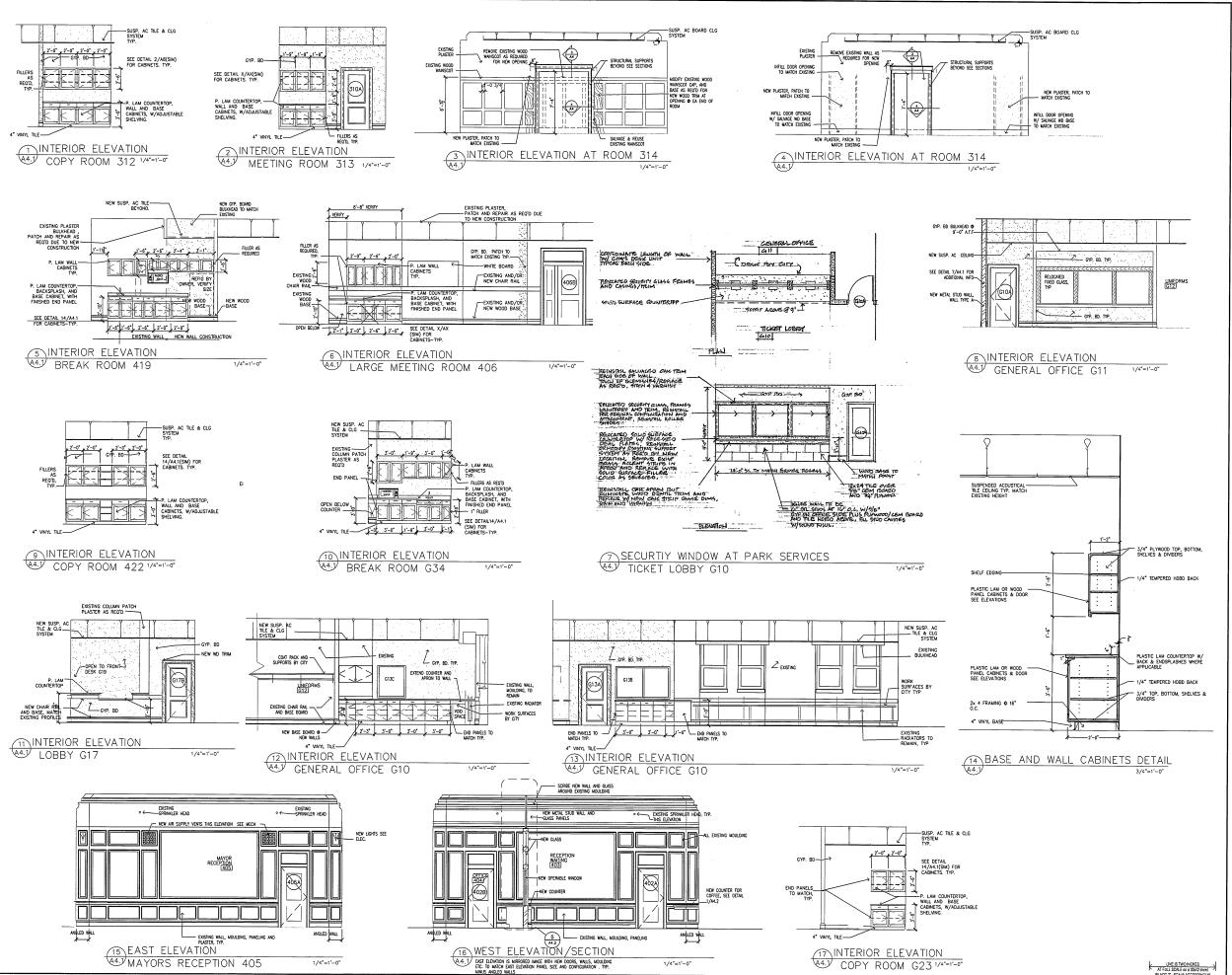
ALL PHASES



SCHEDULES/DETAILS

RW Fern Associates Inc. Architects, 5517 Grand Ave, Duluth, Minnesota 55807 (218) 722-6271 DULUTH CITY HALL — PROJECT # PFM20 INTERIOR RENOVATIONS — GROUND FLOOR — THIRD FLOOR— FOURTH FLOOR 411 WEST FIRST STREET, DULUTH, MN. 55802

A4



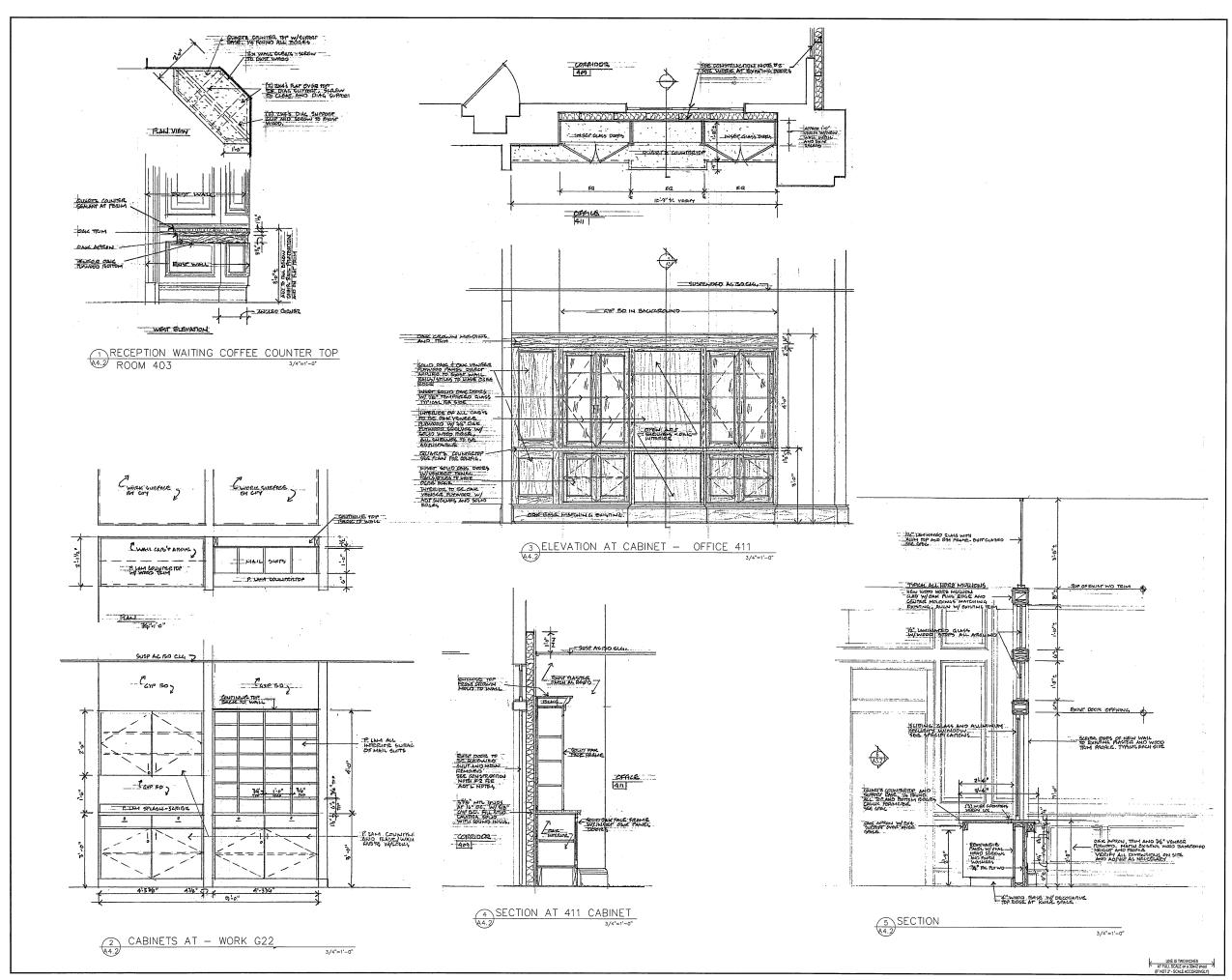




--- INTERIOR ELEVATIONS/ DETAILS

Fern Associates Inc. Architects, 5517 Grand Ave, Duluth, Minnesota 55807 (218) 722-UTH CITY HALL - PROJECT # PFM20 WEST RENCYATIONS - GROUND FLOOR - THIRD FLOOR FLOOR WEST FIRST STREET, DULDH, MM. 55802

| 306 No. 2417 | Cope 23- | Grown Bg. Sh.W | Checker Bg. | Sheet: | A 1 |







DETAILS \ SECTIONS

RW Fern Associates Inc. Architects, 5517 Grand Ave, Duluth, Minnesota 55807 (218) 722-8271 FLOOR-THIRD DULUTH CITY HALL - PROJECT # PFM20 INTERIOR RENOVATIONS- GROUND FLOOR 411 WEST FIRST STREET, DULUTH, MN. 55802

Sheet:

1/8"=1'-0"





FILES

AND

FURNITURE

RW Fern Associates Inc. Architects, 5517 Grand Ave, Duluth, Minnesota 55807 (218) 722-8271 DULUTH CITY HALL - PROJECT # PFM20 INTERIOR RENOVATIONS- GROUND FLOOR 111 WEST FIRST STREET, DULUTH, MN. 55802

A5

NOTE

ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET. THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

DATA DEVICE TAGS -SYMBOL -EQUIPMENT ID

THERMOSTAT

SENSOR

MANUAL SWITCH

DAMPER TAGS MANUAL BALANCING DAMPER

CARBON DIOXIDE SENSOR CO2 TH RTU-XX TEMPERATURE & HUMIDITY SEN CARBON MONOXIDE SENSOR CO TS VAV-XX TEMPERATURE SENSOR

NITROGEN DIOXIDE SENSOR NO2 T

PANEL NAME

BMS CONTROL PANEL HVAC-CP-X-

HUMIDITY SENSOR HS MS

\$\frac{1}{5}\frac{5}\frac{5}{5}\frac{5}{5}\frac{5}{5}\frac{5}{5}\frac{5}{5}\frac{5}{5}\frac{5}{5}\frac{5}{5}\frac{5}{5}\frac{5}{5}\frac{5}{5}\frac{5}{5}\frac{5}{5}\frac{5}{5}\frac{5}{5}\frac{5}{5}\frac{5}{5}\frac{5}\frac{5}{5}\frac{5}{5}\frac{5}{5}\frac{5}{5}\frac{5}{5}\frac

HUMIDISTAT H S

EXPANSION TANK
ELECTRIC WATER HEATER
FAN COIL UNIT
FIRE PUMP
GREASE INTERCEPT OR
GREATER INTERCEPT OR
GREATING WATER PLAN
HEAT RECOVERY UNIT
POWER ROOF VENTILATOR
RETURNEYHAUST FAN
ROOFTOP UNIT
SUMP PUMP
LINIT HEATER
WATER HEATER

AIR CONDITIONING UNIT

I AIR COOLING CONDENSING UNIT
AIR SEPARATION

AIR SEPARATION

OF CHILLER

COOLING TOWER

COMBITE UNIT HEATER

POINLED WATER PLIMP

DUCT MOUNTED COIL

DUCTSTEWER GOOSTER PUMP

DUCT MOUNTED COIL

DUCTSTEWER GOOSTER PUMP

DUCT MOUNTED COIL

DUCTSTEWER GOOSTER PUMP

DUCT MOUNTED COIL

DUCTSTEWER GROUNT ATTING PUMP

ELECTRIC DUCT COIL

ELECTRIC DUCT COIL

MECHANICAL SHEET INDEX

- M.1 MECHANICAL TITLE SHEET
 M.2 MECHANICAL SPECIFICATIONS
 A21 GROUDO FLOOR REVENUE DEMOLITION PLAN
 M.21 GROUDO FLOOR REVENUE PROTECTION PLAN
 M.21 GROUDO FLOOR REVENUE PROTECTION PLAN
 M.23 GROUDO FLOOR REVENUE AND FIRE PROTECTION PLAN
 M.24 SINCE AND REMININEA AND FIRE PROTECTION PLAN
 M.24 SINCE AND REMININEA AND FIRE PROTECTION PLAN
 M.24 SINCE AND REMININEA AND FIRE PROTECTION M.24 PLOOR SHALE PLAN
 M.25 SINCE AND PLAN
 M.26 SINCE AND PLAN
 M.27 SINCE AND PLAN
 M.27 SINCE AND PLAN
 M.28 SINCE AND PLAN
 M.29 S
- M3.4 ROOF HVAC PLAN

SHEET TITLE MECHANICAL

(218) 55807 Duluth, 5517 Grand A

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Sheet M1.1

Gausman & Moore Mechania and Electrical Engineers 1700 west Highers Services (1900 west Highers 184-190) Reported Engineers

RIPY THAT THIS PLAN.
REPORTED THE PROPERTY OF

B. RELATED DOCUMENTS

C PLANS AND SPECIFICATIONS

THROUGHOUT THE COURSE OF THE WORK, THE BUILDING OWNER MAY REQUEST MINOR CHANGES AND ADJUSTMENTS TO THE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL MAKE SUGH ADJUSTMENTS WITHOUT ADDITIONAL COST TO THE BUILDING OWNER, WHERE SUCH ADJUSTMENTS ARE NCESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE SYSTEMS, AND WITHIN THE INTENT OF THE CONTRACT DOCUMENTS.

NOTWITHSTANDING ANY OTHER PROVISIONS OF THE CONTRACT DOCUMENTS, THE CONTRACTOR BEARS ULTIMATE RESPONSIBILITY FOR COMPLIANCE OF THE INSTALLATION WITH THE REQUIREMENTS OF THE BUILDING OWNER AND OF THE LOCAL JUSTINGTY HAVING JURISIONICTION

ALL LANDLORD BUILDING SYSTEMS WHICH ARE ROUTED THROUGHOUT THE TENANT SPACE AND ARE NOT INTENDED FOR TENANT CONNECTION OR USE SHALL REMAIN AND SHALL NOT BE REMOVED OR MODIFIED.

D. MODIFICATIONS

THIS CONTRACTOR SHALL COURT WITH THE REQUIREMENTS OF ALL TESTEM, STATE, AND LOCAL COSES AND ALL RULES, RECULATIONS STALANS NOT HE REQUIREMENTS AND INTERPRETATIONS OF ALL AUTHORITIES INVINIS JURISDICTION REGULATION THIS WORK. HOWEVER, THIS SHALL NOT BE CONSTRUED AS RELEVING THE CONTRACTOR FROM COURT WIND WITH ANY REQUIREMENTS OF THE PRAVINGS AND SPECIFICATIONS THAT MAY BE

DRAWINGS AND SPECIFICATIONS SHALL NOT CONFLICT WITH ABOVE REGULATION BUT WHERE THERE ARE DISCREPANCIES, THE CONTRACTOR SHALL NOTIFY THE CONTRACTING AUTHORITY IN WRITING AND OBTAIN CLARIFICATION PRIOR TO TEMBER CLOSING

ALL ELECTRICAL ITEMS ASSOCIATED WITH EQUIPMENT ARE TO BEAR A STAMP TO INDICATE SPECIAL ELECTRICAL SAFETY AUTHORITY APPROVAL.

PERMITS, FEES, LICENSES

THIS CONTRACTOR SHALL PAY ALL FEES AND RELATED CHARGES FOR PERMITS, LICENSES, ETC., REQUIRED FOR INSTALLATION OF THE SYSTEM.

G, WARRANTY

ALL CONSTRUCTION WORK SHALL BE PERFORMED IN A FIRST-CLASS WORKMANLIKE MANNER AND SHALL BE IN GOOD AND USABLE CONDITION AT THE DATE OF COUNTERTION. THIS CONTRACTOR SHALL REQUIRE ANY PERSONS PERFORMING AND SHOW NOT OLD WARMER TE HE MAD IT DE FREE FROM ANY AND ALL DEFECTS IN WORKMANSHER AND WATERLAND FOR DUE (I) YEAR FROM THE DATE OF COMPLETION THEREOF. THIS CONTRACTOR SWILL ALSO ROCKING MAY SHOW PERSONS TO BE RESTONED FOR THE REPOLICIENT OR RESIZENT HIS HOUR MINISTER AND WAS AND ALL DEFECTS OF THE REPOLICIENT OR RESIZENT HIS HOUR AND ALL DEFECTS OF THE PERSONS FOR THE PERSONS OF THE WAS ALL DEFECTS OF THE PERSONS OF

H. RELATED WORK

MATERIALS AND EQUIPMENT SHALL BE FREE OF DEFECTS.

EQUIPMENT ORDER

THE CONTRACTOR SHALL ORDER ALL EQUIPMENT REQUIRED WITHIN TEN DAYS UPON RECEIPT OF CONTRACT IN ORDER TO ENSURE TIMELY RECEIPT OF MATERIAL, SUBSTITUTIONS AFTER THIS DATE DUE TO LACK OF PLACEMEN OF ORDER WILL NOT BE APPROVED.

SECTION 211313 - WET PIPE SPRINKLER SYSTEMS

A. FIRE PROTECTION SYSTEMS

SPRINKLER HEADS IN FINSHED CEILINGS SHALL BE SEM-RECESSED TYPE WITH CHROME FINSH. SPRINKLER HEADS IN KOYPSUM BOARD CEILINGS SHALL BE CONCEALED TYPE WITH WHITE COVER PLATE TO MATCH ADJACE CEILING COLOR. SIGNALL, SPRINKLER HEADS SHALL MATCH RIBNISH OF EXITING. SPRINKLER HEADS IN 2 FOO FOOT CEILING TILES MUST BE CENTERED. WHERE SPRINKLER HEADS COUR IN 2 FOOT X 4 FOOT CEILING TILES HAS BE CENTERED. WHERE SPRINKLER HEADS COUR IN 2 FOOT X 4 FOOT CEILING TILES.

3. QUICK RESPONSE TYPE SPRINKLER HEADS TO BE PROVIDED IN ALL AREAS.

NOTIFY THE BUILDING OWNER OF THE TIME AND DURATION OF THE FIRE PROTECTION WORK. DO NOT LEAVE THE SYSTEM MODERABLE OVERNIGHT. THE SPRINKLER SYSTEM SHALL BE FULLY CHARGED AND OPERATIONAL WHEN THE SPRINK BY CONTRACTOR IS OF SITE.

SPRINKLER SYSTEM SHALL COMPLY WITH NEPA 13 AND LOCAL FIRE AUTHORITY. SPRINKLER PRODUCTS TO BE VIKING. ELKHART, POTTER ROEMER, OR ONYX.

SPRINKLER HEAD LAYOUT SHALL MATCH LOCATIONS IF SHOWN ON PLANS, AND BE INSTALLED ELSEWHERE
ACCORDING TO NEPA REQUIREMENTS. IF ANY ADDITIONAL HEADS ARE REQUIRED, NOTIFY THE ARCHITECT PRIOR
TO INSTALLATION FOR APPROVAL. COORDINATE LOCATIONS WITH ALL CELLING MOUNTED DEWICES.

SECTION 220500 - COMMON WORK RESULTS FOR PLUMBING

A. GENERAL CONDITIONS THE GENERAL CONDITIONS, SPECIAL CONDITIONS, SUPPLEMENTARY CONDITIONS, AND "GENERAL CONDITIONS OF THE CONTRACT." CURRENT EDITION, ESTABLISHED IN STANDARD FORW BY THE AMERICAN INSTITUTE OF AMERICATED AND THE AMERICAN INSTITUTE OF THE AMERICAN INSTITUTE O

THROUGHOUT THE COURSE OF THE WORK, THE BUILDING DWINER MAY REQUEST MINOR CHANGES AND ADJUSTMENTS TO THE PLANS AND SPECIFICATIONS. THE CONTRACTION SHALL MAKE SUCH ADJUSTMENTS WITHOUT ADDITIONAL COST TO THE BUILDING DWINER WHERE SUCH ADJUSTMENTS ARE RECESSARY FOR THE PROPER RISTALLATION AND OPERATION OF THE SYSTEMS, AND WITHIN THE INTENT OF THE CONTRACT DOCUMENTS.

If Is the intent of the plans and specifications to form a guide for a complete installation.
Everthing necessary for the completion and successful operation of the work, whether or not definitely specified on roled on the drawings shall be provided as its obsertible on rolocated without additional cost to the Building owner. The contractor shall verify all dimensions prior to installation.

NOTWITHSTANDING ANY OTHER PROVISIONS OF THE CONTRACT DOCUMENTS, THE CONTRACTOR BEARS ULTIMATE RESPONSIBILITY FOR COMPLIANCE OF THE INSTALLATION WITH THE REQUIREMENTS OF THE BUILDING OWNER AND OF THE LOCAL AUTHORITY HAVING JURISDICTION.

 ALL LANDLORD BUILDING SYSTEMS WHICH ARE ROUTED THROUGHT THE TENANT SPACE AND ARE NOT INTENDED FOR TENANT CONNECTION OR USE SHALL REMAIN AND SHALL NOT BE REMOVED OR MODIFIED. D. MODIFICATIONS

E. CODE COMPLIANCE

THIS CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF ALL FEDERAL STATE, AND LOCAL CODES REGULATING THIS WORK. HOWEVER, THIS SHALL NOT BE CONSTRUED AS RELEWING THE CONTRACTOR FROM CODES OF ANY SHAPE MEMBERS OF THE DRAWNINGS AND SPECIFICATION THAT MAY SEN EXCESS OF ANY CONVENING CODES.

2. ALL MATERIALS AND EQUIPMENT MUST BE ULC AND ASTM B 88-8 APPROVED,

F. PERMITS, FEES, LICENSES

THIS CONTRACTOR SHALL PAY ALL FEES AND RELATED CHARGES FOR PERMITS, LICENSES, ETC., REQUIRED FOR INSTALLATION OF THE SYSTEM.

ALL DORTHUTTON WERK SALL BE SEFEROMED IN A BRIT LAAS FOOTWANKE MANES AND SHALL BE IN
DOWN THE AREA CONTROLLED BE OFFER OF SHORD BEING AND SHALL BE CONTROLLED BE OFFER
UPON COMPLETION OF INSTALLATION OF PLUMBING EQUIPMENT, START-UP AND OPERATE EQUIPMENT TO DEMONSTRATE CAPABILITY AND COMPLIANCE WITH REQUIREMENTS.

2. REMOVE MALFUNCTIONING EQUIPMENT, REPLACE WITH NEW EQUIPMENT AND RETEST

MATERIALS AND EQUIPMENT DESIGNED TO BE NEW SHALL BE FREE OF DEFECTS.

DESIGN AND INSTALL PIPING TO PRESENT A NEAT ORDERLY APPEARANCE, ROUTE PARALLEL WITH BUILDING WALLS AND CONSTRUCTION

3. ALL UNUSED PIPING OR EQUIPMENT SHALL BE REMOVED.

SECTION 220523 - GENERAL DUTY VALVES FOR PLUMBING PIPING

PROVIDE VIBRATION ISOLATION AND FLEXIBLE CONNECTIONS ON ALL MOVING EQUIPMENT. 5. PROVIDE ALL CUTTING AND PATCHING NECESSARY FOR INSTALLATION OF NEW SYSTEMS AND FOURPMENT

 ROOF OPENINGS SHALL BE PERFORMED BY THE BUILDING OWNER'S DESIGNATED ROOFING COMPANY AT THIS CONTRACTOR'S EXPENSE. EQUIPMENT ORDER

THE CONTRACTOR SHALL ORDER ALL EQUIPMENT REQUIRED WITHIN TEN DAYS UPON RECEIPT OF CONTRACT IN ORDER TO ENSURE TIMELY RECEIPT OF MATERIAL. SUBSTITUTIONS AFTER THIS DATE DUE TO LACK OF PLACEMENT OF ORDER MILL NOT BE APPROVED.

CLEANING AND TESTING CLEAN, DISINFECT, AND TEST ALL PLUMBING AND PIPING SYSTEMS AS REQUIRED BY GOVERNING CODES.

DOMESTIC WATER SHUT-OFF VALVES SHALL BE WATTS, APOLLO, OR EQUAL, SOLDER END BALL VALVE.

CHECK VALVE SHALL BE WATTS MODEL NO, LF600, OR EQUAL, UNIT SHALL BE CLASS 125 BRONZE SWING CHECK VALVE COMPLYING WITH MSS-SP-86 TYPE 3. THERMOSTATIC MIXING VALVE SHALL BE WATTS MODEL NO. LFUSG-B, OR EQUAL, UNIT TO HAVE BRASS AND STANLESS STEEL FLOW CONTROL COMPONENTS WITH STANDARD BRONZE FINISH AND VANDAL RESISTANT ADJUSTMENT HANDLE. UNIT SHALL COMPLY WITH ASSE STANDARD 1016.

SECTION 220529 - HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

HANGERS, SUPPORTS, AND SLEEVES

SUPPORT PIPING ADEQUATELY FROM SLABS OR OTHER STRUCTURAL MEMBERS AT INTERVALS IN COMPLIANCE WITH INDUSTRY STANDARDS AND AUTHORITY HAVING JURISDICTION. COORDINATE SUPPORT OF PIPING ON ROOF WITH LANDLONG REQUIREMENTS WHERE APPLICABLE.

ALL HORIZONTAL PIPING PENETRATING WALLS SHALL BE FITTED WITH SLEEVES MADE OF STANDARD STEEL PIPE 1
INCH LARGER THAN THE PIPE AND INSULATION DIAMETER. SLEEVES SHALL BE CUT FLUSH WITH THE WALL ON BOTH
SDES. SEAL THE SLEEVE WITH VILL SHALL SEALANT. ALL PENETRATIONS THROUGH RIPE RATED WALLS
SHALL BE SEALED IN COMPULANCE WITH UL.

3. PROVIDE ESCUTCHEON PLATES ON ALL EXPOSED PIPE PENETRATIONS THROUGH WALLS. SECTION 220553 - IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

IDENTIFY PIPING, DUCTWORK AND EQUIPMENT IN COMPLIANCE WITH INDUSTRY STANDARDS SECTION 220700 - PLUMBING INSULATION

INSULATION SHALL BE OWENS-CORNING, MANMILLE CORPORATION, CERTAIN-TEED, KINAUF, OR EQUAL, ALL INSULATIVE MATERIALS SHALL HAVE FIRE AND SMOKE HAZARD RATINGS AS TESTED BY PROCEDURE ASTME 5-84, MEPPA 25-80 AU D. 23 AND EDUCEMBER ALESS SERVED SAN SOUGH EVEN-COPE ON, INSULATION ACCESSORIES SUCH AS ADMESTICS, CEMENT, TAPES AND GLASS QU'ITS SHALL HAVE THE SAME COMPONENT RATING AS LISTED ARROW.

INSULATE LAWATORY P-TRAP, HOTICOLD SUPPLY PIPING AND SHUT-OFFS WITH TAM GUARD 2* PIPING COVER MANUFACTURED BY TRUEBRO MODEL NO. LAV GUARD 2 UNDERSINK PIPING COVERS, WHITE: PIPING SHALL BE SCURED WITH SHAP CHE HUSH MOUNTED ASTENERS. AND STOR PLAY BARBLE BE SCURED WITH LOCK LID ACCESS COVER. COVER SHALL BE NOW-YELLOWING AND FIRE RETARDIANT.

SECTION 221116 - DOMESTIC WATER PIPING

PIPING FOR COLD AND HOT WATER SYSTEMS SHALL BE TYPE 'L' COPPER TUBING ABOVE GRADE, WITH WROUGHT COPPER SOLDER FITTINGS JOINED USING 85-5 LEAD FREE SOLDER, AND TYPE 'K' COPPER TUBING BELOW GRADE INCHES AND SWALLER. DIEECTOR COPYLINGS SHALL BE USED BETWEEN STEEL AND COPPER CONNECTIONS.

SOIL WASTE AND VENT PIPING SYSTEMS

SOIL, WASTE, AND VENT PIPING SHALL BE SERVICE WEIGHT HUBLESS CAST IRON PIPE AND HUBLESS CAST IRON DRAINAGE FITTINGS

2. ABOVE GROUND SANITARY SEWER PIPING SHALL BE SERVICE WEIGHT "NO-HUB" CAST IRON PIPE

SCHEDULE 40 POLYVINYL CHLORIDE PLASTIC PIPE (PVC) PIPING MAY BE ALLOWED FOR WASTE PIPING ONLY PENDING THE APPROVAL OF THE AUTHORITY HAVING JURISDICTION AND STATE PLUMBING CODE REVIEW.

DRAIN WASTE PUMP FOR SINK DISCHARGE MANUFACTURER: SANIFLO, OR APPROVED EQUAL

SAINFLO SAINVITE DRAIN PUMP ASSEMBLY DESIGNED FOR UNDER-SINK OPERATION, BASIN TO HAVE 3.7 GALLON CAPACITY AND INCLUDE MULTIPLE DRAIN NET CONNECTIONS, VENT CONNECTION, AND PUMP DISCHARGE CONNECTION, PUMP SHALL BE CAPAGE OF A MINIMUM OF REFET VERTICAL LIFT AND 15 PEET OF PORIZONTAL FLOW AT 18 GRIVE FLOW WATER UNIT TO HAVE POWER CORD THAT PLUGS INTO STANDARD 15 AMP RECEPTACLE. INSTALL PER MANAFACTURER RECOMMENDATIONS.

UNIT TO INCLUDE AUDIBLE ALARM TO WARN OF SYSTEM FAILURE, PROVIDE AIR ADMITTANCE VALVE AT VENT CONNECTION.

SCHEDULE 40 POLYVINYL CHLORIDE PLASTIC PIPE (PVC) PIPING MAY BE ALLOWED FOR WASTE PIPING ONLY PENDING THE APPROVAL OF THE AUTHORITY HAVING JURISDICTION AND STATE PLUMBING CODE REVIEW.

SECTION 224000 - PLUMBING SIXTURES A. PLUMBING FIXTURES AND TRIM

PROVIDE ALL FIXTURES AND EQUIPMENT WITH INDIVIDUAL WATER SHUT-OFF VALVE AT POINT OF CONNECTION. 2. REFER TO PLUMBING FIXTURE SCHEDULE FOR MAKE, MODEL NUMBER AND ACCESSORIES.

PLUMBING EQUIPMENT

WATER HEATER EEMAX, OR EQUAL, INSTANT FLOW TYPE WATER HEATER, PROVIDE MODEL, CAPACITIES AND ACCESSORIES AS SCHEDULED.

CONDENSATE PUMP. LITTLE GIANT, OR EQUAL. CONDENSATE PUMP SHALL BE PROVIDED WITH MINIMUM CAPACITY OF 50 GPH AT 30 FT. HEAD. PUMP SHALL BE COMPLETE WITH INTEGRAL FLOAT SWITCH, PUMP, MOTOR ASSEMBLY, AND RESERVOL.

SECTION 230500 - COMMON WORK RESULTS FOR HVAC

GENERAL CONDITIONS

RELATED DOCUMENTS

THROUGHOUT THE COURSE OF THE WORK, THE BUILDING DWINER MAY REQUEST MINOR CHANGES AND ADJASTMENTS TO THE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL MAKE SUCH ADJASTMENTS WITHOUT ADDITIONAL OSTS TO THE BUILDING WOMEN, WHERE SUCH ADJASTMENTS ARE RECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE SYSTEMS, AND WITHIN THE RITENT OF THE CONTRACT DOCUMENTS.

IT IS THE INTENT OF THE PLANS AND SPECIFICATIONS TO FORM A GUIDE FOR A COMPLETE INSTALLATION. EVERYTHING NECESSARY FOR THE COMPLETION AND SUCCESSFUL OPERATION OF THE WORK, WHETHER OR NOT DEPAINTLEY SPECIFIED OR NOICATED ON THE DRAWNING SAMELUE PROVIDED AS IFS OS SPECIFIED OR RIDICATED WITHOUT ADDITIONAL COST TO THE BUILDING OWNER. THE MECHANICAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS PROOT ON INSTALLATION.

NOTWITHSTANDING ANY OTHER PROVISIONS OF THE CONTRACT DOCUMENTS, THE CONTRACTOR BEARS ULTIMAT RESPONSIBILITY FOR COMPLANCE OF THE INSTALLATION WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION

MODIFICATIONS

CODE COMPLIANCE

PERMITS, FEES, LICENSES THIS CONTRACTOR SHALL PAY ALL FEES AND RELATED CHARGES FOR PERMITS, LICENSES, ETC., REQUIRED FOR INSTALLATION OF THE SYSTEM.

RAMINY
ALL CONSTRUCTION WORK SHALL BE PERFORMED IN A FIRST CLASS WORKMANLISK MANNER AND SHALL BE IN
GOOD AND USABLE CONDITIONAT THE DATE OF COMPLETION. THIS CONTRACTOR SHALL REQUIRE ANY PERSONS
PERFORMANCE AND SUM-WORK TO GUARANTE THE SHALL TO BE REFER FIRST ANY AND ALL DEFECTS IN
WORKMANSHIP AND MATERIALS FOR ONE IT YEAR FROM THE DATE OF COMPLETION THEREOF. THIS CONTRACTOR
WORKMANSHIP AND MATERIALS FOR ONE IT YEAR FROM THE DATE OF COMPLETION THEREOF. THIS CONTRACTOR
WORKMANSHIP AND ALL THORSE OF THE PERSON THE PROPERTY OF REPAIR WITHOUT ANY
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H. FIELD QUALITY CONTROL

UPON COMPLETION OF INSTALLATION OF MECHANICAL EQUIPMENT, START-UP AND OPERATE EQUIPMENT TO DEMONSTRATE CAPABILITY AND COMPLIANCE WITH REQUIREMENTS.

REMOVE MALFUNCTIONING EQUIPMENT, REPLACE WITH NEW EQUIPMENT AND RETEST. 3. REMOVE MALFUNCTIONING HVAC UNITS, REPLACE WITH NEW HVAC UNITS AND RETEST.

HVAC RELATED WORK

MATERIALS AND EQUIPMENT DESIGNED TO BE NEW SHALL BE FREE OF DEFECTS.

MATERIALS AND EQUIPMENT DESIGNED TO BE REUSED SHALL BE VERIFIED BY THIS CONTRACTOR TO BE IN GOOD WORKING CONDITION. IF MATERIALS AND EQUIPMENT DO NOT MEET THE DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPIAR OR REPLACEMENT OF SAID MATERIALS AND EQUIPMENT.

DESIGN AND INSTALL PIPING AND DUCTIVORK TO PRESENT A NEAT ORDERLY APPEARANCE. ROUTE PARALLEL WITH BUILDING WALLS AND CONSTRUCTION.

4. ALL UNUSED PIPING OR EQUIPMENT SHALL BE REMOVED.

5. PROVIDE VIBRATION ISOLATION AND FLEXIBLE CONNECTIONS ON ALL MOVING FOLIPMENT PROVIDE ALL CUTTING AND PATCHING NECESSARY FOR INSTALLATION OF NEW SYSTEMS AND EQUIPMENT.

ROOF OPENINGS SHALL BE PERFORMED BY THE BUILDING OWNER'S DESIGNATED ROOFING COMPANY AT THIS CONTRACTOR'S EXPENSE. EQUIPMENT ORDER

 THE CONTRACTOR SHALL ORDER ALL EQUIPMENT REQUIRED WITHIN TEN DAYS UPON RECEIPT OF CONTRACT IN
ORDER TO ENSURE TIMELY RECEIPT OF MATERIAL. SUBSTITUTIONS AFTER THIS DATE DUE TO LACK OF PLACEMENT
OF ORDER WILL NOT BE APPROVED. SECTION 230529 - HANGERS AND SUPPORTS FOR HVAC PIPING AND FOLIPMENT

A. HANGERS, SUPPORTS, AND SLEEVES

SUPPORT PIPING ADEQUATELY FROM SLABS OR OTHER STRUCTURAL MEMBERS AT INTERVALS IN COMPLIANCE WITH INDUSTRY STANDARDS AND AUTHORITY HAVING JURISDICTION.

ALL HORIZONTAL PRIME PENETRATING WALLS SHALL BE EFFTED WITH SLEEVES MADE OF STANDARD STEEL PIPE 1
NOT LARGEST HANN HE PIPE AND INSUSALTON PRAMETER. SLEEVES SHALL BE CUT FLUSH WITH HE WALL ON BOTH
SIDES. SEAL THE SLEEVE VOIDS WITH NOWSHAND SEALANT. ALL PENETRATIONS THROUGH FIRE FARE WALLS
SHALL BE SEALE IN COMPLANCE WITH UIL.

3. PROVIDE ESCUTCHEON PLATES ON ALL EXPOSED PIPE PENETRATIONS THROUGH WALLS.

ION 230593 - TESTING, ADJUSTING, AND BALANCING FOR HVAC A. TESTING ADJUSTING AND BALANCING

TESTING AND BALANCING OF ALL SUPPLY AIR AND RETURN AIR TO BE PROVIDED BY AN INDEPENDENT NESS OR AASC CERTIFIED COMPANY, BALANCE AIR SYSTEMS TO THE INDICATED DESIGN AIR FLOWS AT EACH OUTLET AND AS SCHEDULE ON EQUIPMENT.

SUBMIT A MINIMUM OF TWO [2] CERTIFIED COPIES OF A COMPLETE AIR BALANCE TEST REPORT TO THE OWNER FOR REVIEW AND COMMENT. REPORTS MUST BE SUBMITTED PRIOR TO RECEIVING FINAL PAYMENT,

THESE ARE TO BE "CERTIFIED" BALANCE REPORTS AND ARE TO INCLUDE THE SPECIFICATIONS OF ALL EQUIPMENT INSTALLED ON THE PROJECT AS WELL AS THE RESULTS OF THE BALANCING. ANY NON-CERTIFIED OR INCOMPLETE REPORTS WILL BE REJECTED.

COORDINATE TESTING, ADJUSTING AND BALANCING WITH THE BUILDING OWNER'S FIELD REPRESENTATIVE PRIOR TO FINAL BIDS.

SECTION 230700 - HVAC INSULATION MECHANICAL INSULATION

INSULATE SUPPLY AIR DUCTWORK WITHIN CONDITIONED SPACE WITH FIBERGLASS BLANKET MINIMUM 1-1/2 INC THICK, 1 POUND PER CUBIC FOOT DENSITY, VAPOR BARRIER JACKET WITH 2 INCH TAB, GLASS REINFORCED LAMBNATED ALUMINUM FOIL AND KRAFT PAPER JACKET. INSULATION THICKNESS SHALL BE IN COMPLIANCE WIT APPLICABLE CODE REQUIREMENTS.

 INSULATE CONDENSATE DRAIN PIPING WITH A MINIMUM 1/2 INCH THICK CLOSED CELL FLEXIBLE RUBBER PIPE INSULATION. INSULATE REFRIGERANT SUCTION PIPING WITH A MINIMUM 1 INCH THICK CLOSED CELL FLEXIBLE RUBBER PIPE INSULATION

SECTION 230993 - SEQUENCE OF OPERATIONS FOR HVAC CONTROLS

A. AUTOMATIC TEMPERATURE CONTROL - SPLIT SYSTEM AIR CONDITIONING UNITS

PROVIDE, UNLESS NOTED OTHERWISE, ALL THERMOSTATS, SENSORS, CONTROLLERS, RELAYS, CONTACTORS, DAMPERS, ACTUATORS, WLVES AND ALL OTHER MATERIALS NECESSARY FOR A COMPLETE AND PROPERLY OPERATING ELECTROWIC TEMPERATURE CONTROL SYSTEM AS SPECIFIED BELOW. ALL CONTROL WIRING SHALL BE BY THE MECHANICAL CONTRACTOR AND SHALL BE INSTALLED IN CONDUIT.

. PROVIDE A 7-DAY PROGRAMMABLE COOLING/HEATING AUTOMATIC CHANGEOVER THERMOSTAT TO CONTROL THE OPERATION OF THE HANC SYSTEM. THE THERMOSTAT SHALL BE FURNISHED WITH A SUB SABE THAT INCLUDES AN AUTOMATIC AND CONTROL OF STEEM SHALL THERMOSTAT TO HAVE REALY CONTROL OF CONNECTION TO AND CONTROL OF EDSTING ROUGHT HEATING SYSTEM. UNLESS NOTED OTHERWISE, MOLIAT THERMOSTAT AT 150 MICHOS SADVE THIS SHEED FLOOR.

3. PROVIDE CONTROL DEVICES TO ACCOMPLISH THE FOLLOWING CONTROL SPOLENCES

OCCUPIED COOL CYCLE
 AC UNIT RESPONDS TO REQUIREMENT OF ROOM THERWOSTAT.
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 OCCUPIED COOL CYCLE.
 AC UNIT CYCLES TO MAINTAIN UNDOCUPIED ROOM SETPOINT.
 OCCUPIED REALINE TO CE.
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 OCCUPIED REALINE TO CE.

A REFRIGERANT PIPING SYSTEMS REFRICERATION PIPMIC SHALL BETYPE ACR HARD DRAWN COPPER TUBING AND WROUGHT COPPER SQLDER JONING THINKES CHOPE HOW THE WAY THE ACR HAVE THE ACR COLLED CONDENS AND WROUGHT COPPER SAFECHER DEVICE AND THE ACT WALL CONDENSING UNIT LOCATION AND THE DEVELOCED PHYMIC LEVEL THE ACR SUBJECT OF THE ACT WALL CONDENSING UNIT LOCATION AND THE DEVELOCED PHYMIC LEVEL THE ACR DOUGHT OF THE ACT WALL CONDENSING UNIT LOCATION AND THE DEVELOCED PHYMIC LEVEL AND MOUSTRY PRACTICE.

PROVIDE ALL SOLENCID VALVES, SHUT-OFF VALVES AND ACCESSORIES REQUIRED BY THE AIR COOLED CONDENSING UNIT MANUFACTURER TO PROVIDE A COMPLETE AND OPERABLE REFRIGERATION PIPING SYSTEM,

A METAL DUCTWORK CONSTRUCT ALL LOW VE COUTT MUCTIVENT OF APPORTMETE SALES SHEET META. FOR INDUSTES SIZES IN COCCREANINE WITH SALES AT ANOMASE AND OF GROWING THE R. POUTE DUCTWORK SUSSTAINABLY AS SHOWN ON HE CONTRACT DOLINENTS. ALL SENIOR NO CUPRES S. POUTE SALES AND SHOWN ON THE CONTRACT SALES SH

INSTALL RIGID ALL WETAL DUCT SUPPORT SYSTEMS AS INDICATED IN SMACHA STANDARDS. SUPPORT HORIZONTA DUCTS WITHIN Z FEET OF EACH LEBOW AND WITHIN 4 FEET OF EACH BRANCH INTERSECTION LISING STRAP HANGERS ON EACH SIED OF FITTING. SUPPORT VETRICAL DUCTS AT A MAXIMUM RITERAL OF SFEET. NO WOOD SHALL BE USED TO SUPPORT OR BRACE DUCTS. PROVIDE SWAY AND SEISMIC BRACING AS REQUIRED BY STATE AND LOCAL COSTS.

THE AIR DISTRIBUTION SYSTEM SHALL BE FABRICATED AS RECOMMENDED IN THE LATEST EDITION OF THE SMAC LOW VELOCITY DUCT MANUAL AND INSTALLED WHERE SHOWN ON FLAN. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL REQUIRED DAMPERS, TRANSITIONS AND CONNECTIONS TO AIR TERMINALS NECESSARY FOR A COMPLETE OFFERTING SYSTEM. ALL DUCTWORK SHALL BE GALVANZED STEEL UNLESS OTHERWISE SPECIFIED, WITH GALGES AND REINFORCED AND CONTROLLED AND

SECTION 233300 - AIR DI ICT ACCESSORIES A. METAL DUCTWORK

LINE TRANSFER AIR DUCTS WITH ACOUSTICAL FIBERGLASS DUCT LINER MINIMUM 1 INCH THICK, 3 LB. PER CU. FT. DENSITY. INSULATION THICKNESS SHALL BE IN COMPLIANCE WITH APPLICABLE CODE REQUIREMENTS. INCREASE DUCT SIZES SHOWN BY TWO INCHES IN FACE DIRECTION TO ACCOMMODITE THE INFER. SEAL JOINTS IN ALL SUPPLY AIR DUCTS WITH 3M INDUSTRIAL SEALANT 808, OR EQUAL, IN ACCORDANCE WITH SMACNA LOW PRESSURE DUCT CONSTRUCTION STANDARDS TO PRODUCE A LEAKAGE RATE OF NOT MORE THAN 5

MAKE DUCT CONNECTIONS TO ALL EQUIPMENT, IN CEILING PLENUM SPACE, WITH A MINIMUM 4 INCH FLEXIBLE CONNECTION BETWEEN THE EQUIPMENT AND DUCT.

SECTION 233713 - GRILLES, REGISTERS, AND DIFFUSERS A. DIFFUSERS, REGISTERS AND GRILLES

DIFFUSERS, REGISTERS AND GRILLES WHERE SHOWN ON DRAWINGS AND AS SCHEDULED SHALL BE TITUS, OR APPROVED EQUAL.

SECTION 238126 - SPLIT SYSTEM AIR CONDITIONERS

MANUFACTURERS: DAIKIN OR APPROVED EQUAL

A INDOOR UNITS

. UNITS SHALL BE LOCATED AS SHOWN ON DRAWINGS. PROVIDE SUPPORT AS REQUIRED AND COORDINATE ALL REQUIRED SERVICE CLEARANCES. UNIT SHALL CONSIST OF CABINET, REFRIGERANT COLL, FAN, AND FAN NOTOR UNIT SHALL BE COUPPED WITH A HOWANT LOAD MAN LANGEST HERMAL CHOTOL ARRICAW PROVING ENVICE, AND ONE TIME FUSES IN TERMINAL BOX FOR OVERCURRENT PROTECTION. RETURN AIR GRILLES TO UNIT SHALL HAVE AIR FLIER HOUSING.

C. CONDENSING UNITS

AR COOLED CONDENSING UNIT SHALL BE LOCATED ON ROOF AS SHOWN ON DRAWNINGS, CONTRACTOR TO VERIFICACE TO THE DESTROY CONDITIONS, PROVIDE EQUIPMENT BASE AND INSTALLATION REPROD AS RECOMMENCED BY MANUFACTIGER AND COORDINATE AL RECIPIENTS SENTING CLERANGES UNIT MAY REPROD AS RECOMMENCED BY MANUFACTIGER AND COORDINATE ALL RECIPIES SENTING CLERANGES UNIT MAY REPORT OF THE PROVIDENCE OF THE PROVIDENCE AND THE PROVIDENCE OF THE PROV

INSTALL UNITS AS SHOWN ON DRAWINGS TO CONTROL REFRIGERANT FLOW TO EACH INDOOR FAN COIL UNIT BRANCH PROVIDER UNITS ARE TO BE BY SAME MANUFACTURER AND SHALL BE INSTALLED ACCORDING TO MANUFACTURER RECOMMENDATIONS.

THERMOSTATS

PROVIDE ONE PROGRAMMABLE THERMOSTAT BY SAME MANUFACTURER FOR EACH INDOOR UNIT, THERMOSTAT SHALL BE CAPARLE OF PROGRAMMING SET POINTS FOR OCCUPIED AND MONOCOURIED MOST SOR COLUMN AND HEATING, INSENT CONTROL POINTS OF INDICENS OF THE PROPERTY LIVE, MOST AND HEATING, INSENT SHALL SHAL

END OF MECHANICAL SPECIFICATIONS

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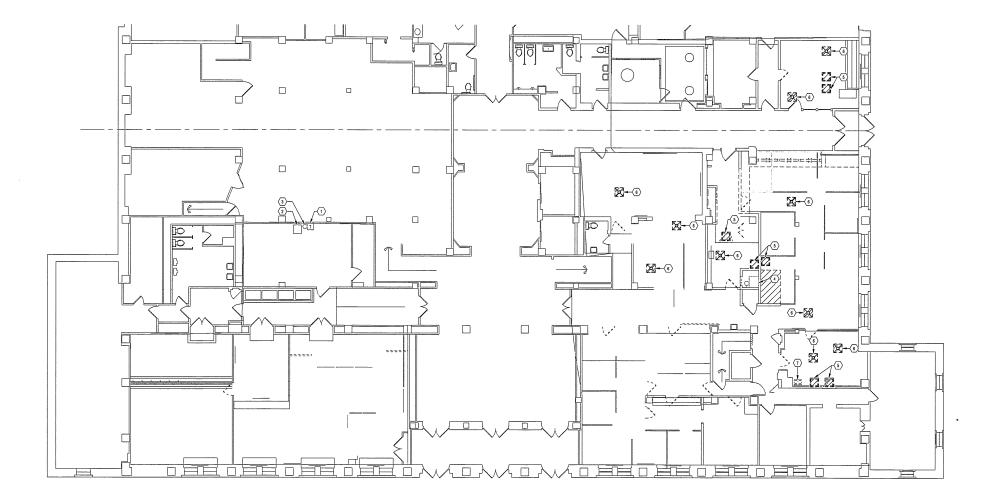
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GROUND FLOOR MECHANICAL DEMOLITION PLAN

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 REMOVE SINK, FAULET, BECTRICHMETRE HEATER, RITER, AND ASSOCIATED PURITHORIK.

 REMOVE SINK, FAULET, BECTRICHMETRE HEATER, RITER, AND ASSOCIATED HYDRO, CAP WASHER PRESE ON A FOOL ON VEHICI PIER ASDO, SECKLATED HAVING, CAP WASHER PRESE ON BECOME WASH.

 REMOVE WALL, GELLE AND ASSOCIATED DUCTWORK, TO REMAIN.

 REMOVE WALL, THEMOSISTAT, TO BE REPLOCED WITH PROGRAMMABLE.

 HEATING-COLINIO THEMOSISTAT, CONTROL WIRMOR FOR HEATING SYSTEM TO BE RELISED.

 REMOVE WALL THEMOSISTAT, TO BE REPLOCED WITH PROGRAMMABLE.

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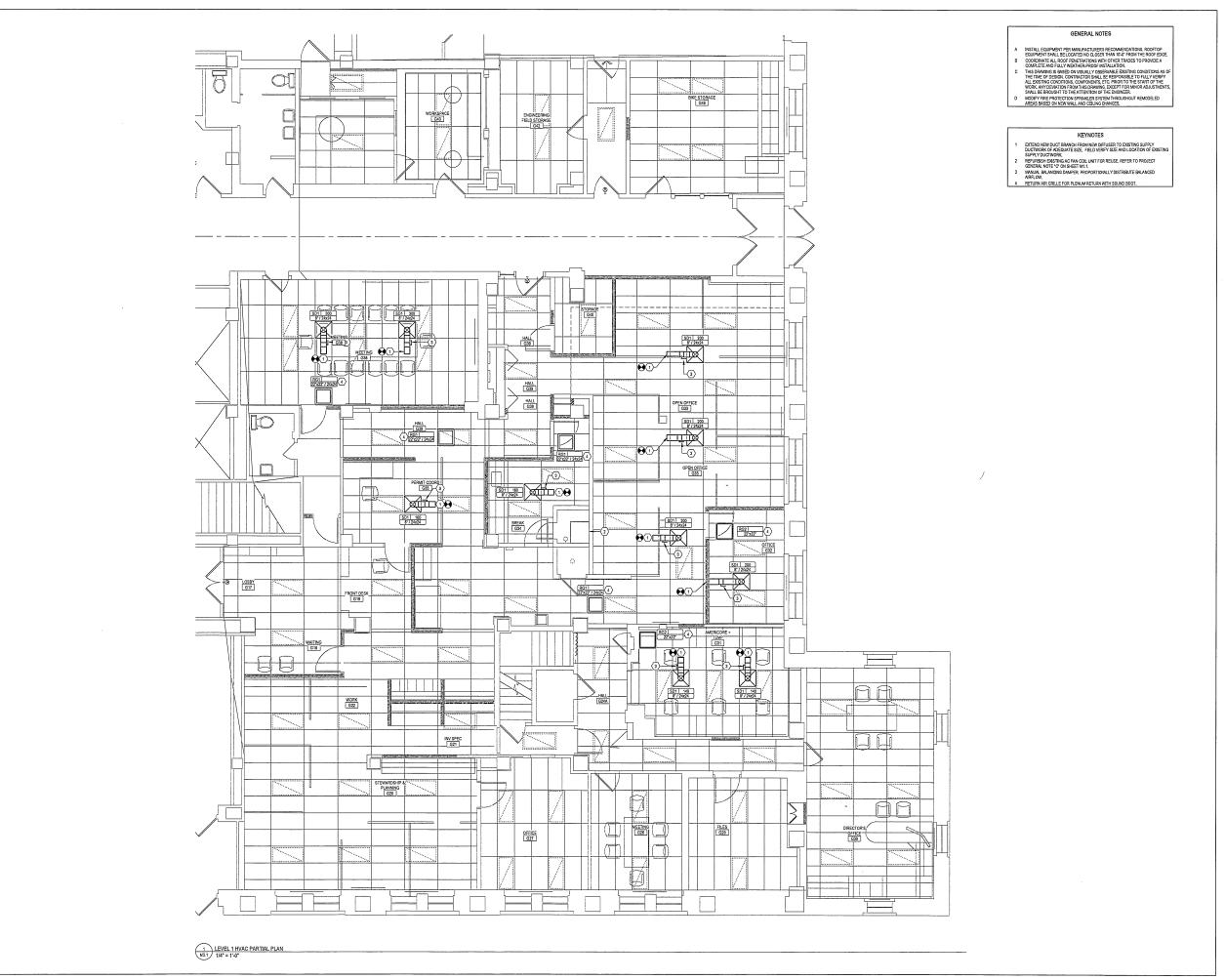
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4TH FLOOR MECHANICAL DEMOLITION PLAN

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GROUND FLOOR HVAC AND FIRE PROTECTION PLAN

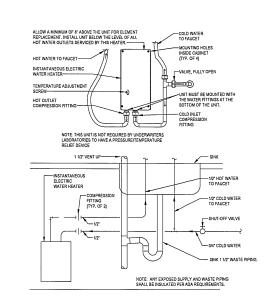
(218) 722-8271 RW Fern Associates Inc. Architects, 5517 Grand Ave, Duluth, Minnesota 55807 (218 DULUTH CITY HALL - PROJECT # 21-INTERIOR RENOVATIONS - GROUND FLOOR - THIRD FLOOR - FOURTH FLOOR 411 WEST FIRST STREET, DULUTH, MN. 55802

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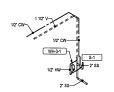
GENERAL NOTES

- INSTAL EQUIPMENT PER MANUFACTURERS RECOMMENDATIONS. ROOFTOP EQUIPMENT SHALL BE LOCATED NO. OLOSER THAN 10°4 FROM THE ROOF EDGE. COMPONENT AND FROM THE PARKED RESPONSIVELY LOSS RESPONSIVELY LOSS REPORTS LOST PARTIES, OR LOSS REPORTS EDGE TO FREI THE ROOFT
KEYNOTES

- INSTALL SANITARY SEWER PIPING IN CEILING OF 2ND FLOOR, CONNECT TO DOSTING SANITARY SEWER, FIELD VERIFY CONNECTION POINT. NISTALL DONESTIC OW PIPING AND VENT PIPING IN CEILING OF 3RD FLOOR CONNECT TO EXISTING DOMESTIC WATER AND VENT, FIELD VERIFY CONNECT POINTS.
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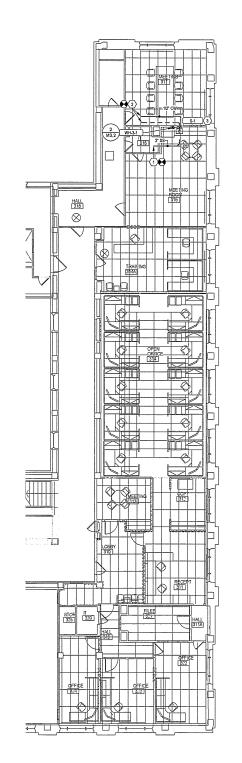
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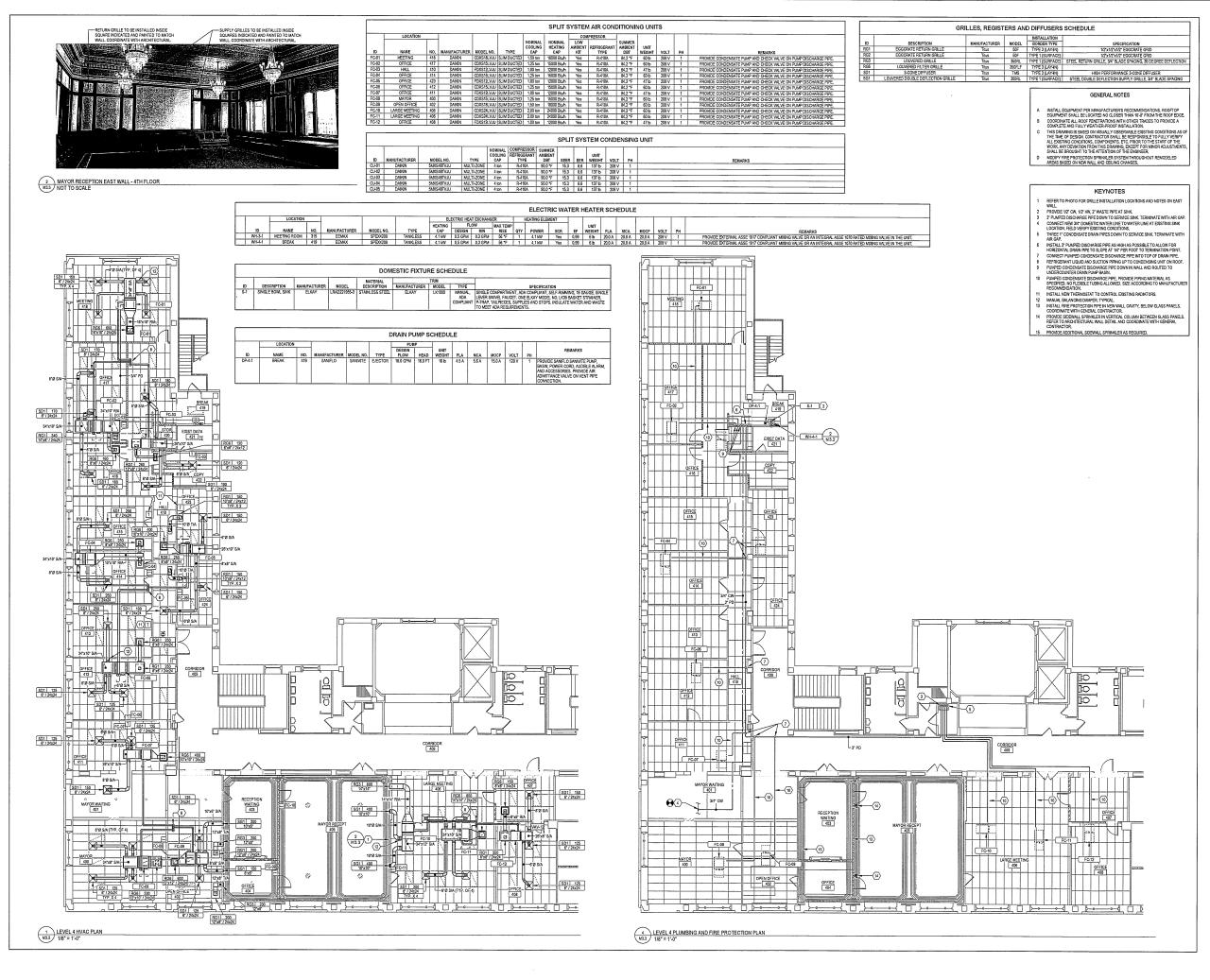
3RD FLOOR PLUMBING AND FIRE PROTECTION PLAN

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RW Fern Associates Inc. Architects, 5517 Grand Ave, Duluth, Minnesota 55807 (216 DULUTH CITY HALL - PROJECT # 21-INTERIOR RENOVATIONS - GROUND FLOOR - THIRD FLOOR - FOURTH FLOOR 411 WEST FIRST STREET, DULUTH, MN. 55802

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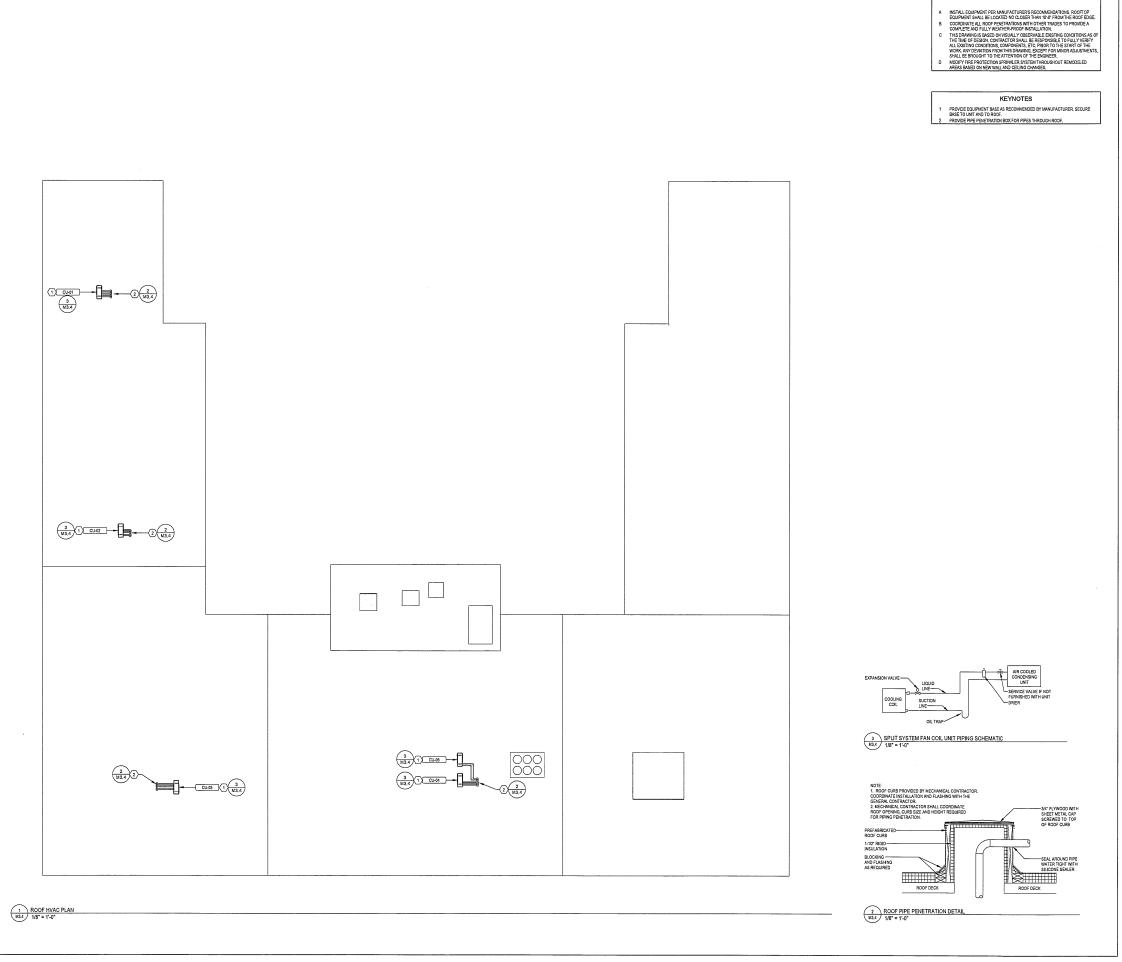
4TH FLOOR HVAC, PLUMBING, AND FIRE PROTECTION PLANS AND SCHEDULES

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GENERAL NOTES

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ROOF HVAC PLAN

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Commissioning and Testing. The communications cashing confractor shall lest new Catlegory 6 and 6a cashing. Provide the Engineer with one deletions occurrent of the obtained lest report and the propriet parties and reports. Their reports and lake valuely destinated and cashing including on the confidence inschool. The Engineer will review the lest result and climated decommendation to him to home railer lest results are found to be established, used in extraordinate to the confidence inschool. The Engineer will review the lest result are of forward of occurrentation to list now are later fair treast are to touch to be established, used ill set occurrent to the confidence in the comment of the confidence in the confidence i

SECTION 262416 - PANELBOARDS

SECTION 265100 - LIGHTING FIXTURES

SECTION 270010 - COMMUNICATIONS

Panelboards are existing to remain. Provide circuit breakers as required for new equipment/device panelboards with switching and overcurrent profestive devices in quantities, ratings, types, and are bus bars, full sized neutral bar, and ground bus, Provide belief type heavy-duty, thermomagnetic Culter Hammer or equipment. Provide short drawless for the Architect and Feriorie troublew.

Provide light fixtures type as indicated on plans, Install in accordance with manufacturer requirements.

<u>Creat Directions</u>: Each cabinet shall be equipped with a carefully prepared and typed directory circuits refecting as-butt conditions (new and existing) behind a date plastic sheet, made out using room names or numbers on the doors, not the numbers on the drawings. Verify with Owner prior to first lyping.

Clearing: Before the final inspection, the interior of the cebinet shall be cleaned of cebris, and the panels and fronts shall be cleaned of pair and dirt.

Fotures shall be substantially supported. LED fixtures shall be supported from structural members of the building. Furnish and install structural stellar structural struct

Remove existing easile iray and Category 5 casiles at existing workstation and caper locations that are part of this renovation; casiles, consistency, and patch panels no longer in use and removation in the removation case shall be depasted of by the flatter, Utilizer existing 5-consistency, and patch panels not hereous deposits are some case to remove the case of the section of the section of the consistency of an experiment metalization. Provide most casely not a consistency of the section of the consistency of the con

Commiss. Menineares, and Wirmelies. Communication systems shall be fully functioning and shall be demonstrated as operational price substantial completion. Telecommunications calling system and workershall be surrented by the Bidder for a period of low year for the time of activation discreption. Category on dis communications calling system and be accessing system and be accessed by the mandaterier for a minimum period of System. Category 6 and 6a extended workerships shall be an applications assurance warranty offered by the connectivity harder manufacturer.

Cathe Supports: Cable hooks (J-hooks) shall be 2-inch wide full radius cross-section to support cables without sagging or crimping, include all required fasteners for cable supports. J-hooks shall be product from Chatsworth "Rajid Track", "Caddy", "B-Line", Artington plastic support, or

Connet Horizontal Cigita. Horizontal voce and data cable shall be Calegory 6 and Calegory 6a (WAP locations only) and shall be one of the following products: Berk-Tek (LANimark 2000), Commesope (Ultra-Pps), General (GesS-PEED 6500), Hibabi (Supra-650), Superior Essex (DataGrain 6-), or prior approved equal, Indissty shareful conductor insulation offer coding (Olive), carriage, green, browning.

<u>Facedates and Connectors</u>: Faceplates for all workstations outlets shall be high impact plastic and shall provide for flush mounting of jacks, color faceplates and jacks shall match existing. Faceplates shall have a clear plattic cover over the label compliant with TIA/EIA 605 word area labeling standard, Jacks shall be of the same manufacturer as Calceron's Cache panels.

Patch Cords: Copper patch cords shall be from the same manufacturer as Calegory 6 patch panets. Furnish two patch cords for every voice and data workstation outlet (one 5-feet and one 10-feet in tength).

Pathways: Refer to Division 260000 for bases and racevery specification. When communications cables are not installed in conduit, the communications contractor shall provide a 1-Hook cable support system (or Adington plastic cable streps) or utilize new cable tray system. Cable support shall be installed at intervise not greater than 5 feet and shall be installed independent of other support systems. Provide minimum 17 Cfrom drose both to accessible celling space.

<u>Identification (Labeling)</u> Identification and labeling for communications shall conform to ANSI/TIA/EIA 606 standards and match existing labeling system. Both ends of all communications cables, workstallon jacks, patch pands, and equipment racks shall be labeled with permanent players labels and color coded as follows:

Vertical and Horizontal Cable Management. Ultize existing cable management, both vertically and horizontally, for new Calegory 6 and cabling associated with existing associated with existing associated. SECTION 283100 - FIRE DETECTION AND ALARM

DIVISION 26 - ELECTRICAL WORK SECTION 260500 - COMMON WORK RESULTS FOR ELECTRICAL Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section Scope of Work Provide a complete installation of the type specified, ready for use by the Owner. Parts or equipment not specifically menti-be furnished and installed. In general, this includes but is not limited to the following:

The current supply for lighting and power is 208/120 volts, three phase, 4 wire connected. Electricity will be obtained from the existing building service and di

Perform necessary cutting and pathology required for installation of the Wide. Pathology shall be done in such a remove set brother his pathol stateland to understander own. Command the Another design performed configurations insteaded with demonstrating personnel designed appeared from chings designed memorities. Operand part and order designed appeared memorities of the performance of the command of the personnel designed appeared and personnel designed and p

Drawings are dagrammatic and represent the project scope, including but not limited to demdition, phased demoktion, and new construction. Existing infulies plans does not represent all existing conditions. Become familiar with existing conditions, scope of phasing, and project intent prior to bid submission advisored to the factor of Innexidence of certains conditions.

Manufacturer's Directions: Install or apply manufactured material according to the manufacturer's directions, unless specifically designated otherwise

Before submitting a proposal for the work, examine the site, investigate the means of connecting services, and become familiar with site conditions and limitations. No extras will be allowed because of this Bidder's misunderstanding of the amount of work involved due to his fact, of knowledge of site conditions and/or project requirements.

Provide necessary demdition to facilitate new construction work associated with this project. Coordinate outages with owner a minimum 72 hours in advance, Owner retains right to first salvage, Provide disposal of all removed material, Maintain circuit confinuity as required.

Bethical work shall comply with the current edition of the National Bethic Code, including State and Local Building Code. If in any instance the plans and specifications conflict with such laws or applicable codes and standards, the laws, code, or standard shall late precedence. Comply with requirements of the dawlays and specifications that may be in excess of the reside and not contartly to be starne. Other line necessory permits and pay of reciprated less, included code reciprate shall within a contact and the contact of such action.

Submit for review shop drawings and manufacturer's standard product information for lighting. Such submittels shall first be checked and stamped by the contractor and submittels to Architect for approval. Bectronic submittels are acceptable.

Instruct the Owner's personnel in the operation and maintenance of the equipment supplied in this contract. This included a minimum of two (2) four-hour training sessions, one at close out and second within 90 days per owner schedule, including required system adjustments.

Connectors and couplings for raceway shall be of steed set screw type. Malleable type fittings will not be accepted. Provide related PVC components and materials per manufactures requirements. Provide 2 channel power pales as manufactured by Hubbell or equivalent, Color by Architect.

Raceways, rigidy supported, and square with the building construction. Pull boxes shall be installed in long runs where necessary to facilitate pulmg wires. Provide vertic conductor support per NCC. Expension filtings shall be furnished and installated where conduits run through building agraination justing, these to be 0.2. Type AX, or approve exervised. Follow manufacturer's instruction as to installation of the justings. See a provided and a first way with the past forcing floors, well, or installations.

Conductors for branch circuits and feeders shall be copper. Insulation for conductors RB and smaller shall be type THAWN, THAN and for larger sizes shall be type THAWN or THANN. The wire size for branch circuits shall be 1912 as a minimum for receptiades and #10 for lighting, and larger where so indicated on the drawings. Solid conductors for sizes smaller time AS MAX. Statemock RB ANX cast clared.

Conductors shall be carefully handled and installed in accordance with manufacturer's directions. Branch circuit conductors shall be color coded as required by NEC, Neutrals shall be while or gray, and ground wires shall be green. Connections and lugs shall be UL listed for the type of cable being used. Cables and conductors to be installed in

Oute! boxes shall be of type suitable to their use, and of size required by code. They shall be galvanized steel, except that those exposed to the weather shall be cast alloy with a gasket. Boxes shall not be mounted back to back. At common wall partitions in offices, install boxes with at least one stud between outels.

Switches: Each switch outlet shall be specification grade equipped with a 20 ampere rocker switch, odor to match existing, in pides required, rated at 120 volts. Switch handle color shall match existing.

Receptedes: Each receptede outet shall be specification grade equipped with a 20 ampere duplex plug receptede of the three pide grounding odor to match existing.

Stoppe 5. Publications. Presion 'Index-Not' (pag proofs had creal interruption, with beauty-day (active respondes, terrinders) paying resident in 2.50° (and our day when which catabatty, created presidents) president (and a China China) of the China Ch

Make electrical connections to equipment shown on the drawings by equipment symbol. Ahead of each piece of equipment furnish and install a disconnect in ac code requirements, Field yearly connection requirements,

Furnish and install wining devices of Bryant, Hubbell, Levilon, Pass & Seymour, General Electric, or approved equivalent manufacturer,

Plates: Wall mounted devices shall be equipped with stainless steel #302 plates in configurations require

SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PANEL
BOTTOM VALUE, LOWERCASE LETTER SWITCH DESIGNATION.
USSENCE OF A SWITCH ID INDICATES FIXTURE IS CONTROLLED BY THE ONLY
WINTCH IN THE SPACE.

IN PLACE OF THE SWITCH ID INDICATES NIGHT LIGHT, UNSWITCHED. Wining for Power and Lighting Security Provisions Lighting Control System Lighting Fixtures Voice/Data Fire Agerm Low Voltage EXIT LIGHTS. STEM INDICATES WALL MOUNTING. NO STEM INDICATES CEILIN MOUNTING, SHADED AREA INDICATES ELLUMINATED FACE(S), ARROW MOLICAL DIRECTIONAL ARROW ON ELLUMINATED FACE(S), THE GIRCUIT DESIGNATION INDICATED BY A NUMBER. EXAMPLE THE WALL MOUNTED EXIT LIGHT TYPE WITH SINGLE FACE AND DIRECTIONAL ARROW IS CONNECTED TO CREWE TO. DEVICES. THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER. THE SWITCH DESIGNATION IS INDICATED BY A LOWER CASE LETTER. EXAMPLE: SPLIT DUPLEX RECEPTACLE! S CONNECTED TO CIRCUIT 1 AND ONE RECEPTACLE OUTLET IS CONTROLLED BY SWITCH of. Workmanship The work shall be done in a workmanlike manner by persons expenenced and skilled in the Irade.

Current Characteristics

Inspection of Site

Culting and Patching

Codes, Permits and Fees

Temporary Light and Power

SECTION 260015 - ELECTRICAL SYSTEM PERFORMANCE

SECTION 260020 - ELECTRICAL COORDINATION

SECTION 260025 - ELECTRICAL SUBMITTALS

Shop Drawings and Manufacturer's Data

Coordinate the work with that of other trades to avoid interferences and to expedite the work of each,

Provide facilities for temporary light and power, including those not affected by demolition.

Install above floor interior conductors in EMT, Provide steel set screw connectors and couplings.

Paint existing and/or new surface mounted raceways and/or wireways to match advacent walls as required.

Furnish and install conductors and cables for systems. Conductors shall be UL listed for the purpose.

Demoltion

ELECTRICAL SYMBOL NOTES

S3

LIGHTING FIXTURE TAG DESCRIPTORS: TOP VALUE: FIXTURE TYPE ID, BOTTOM VALUE, NUMBER: CIRCUIT NUMBER, REFER TO DRAWINGS FOR

ELECTRICAL SYMBOL LEGEND

DESCRIPTION

LIGHTING FIXTURES, TYPICAL, RECTANGULAR FILLED CIRCLES INDICATE RECESSED, OPEN CIRCLES INDICATE SURFACE DIAGONAL LINE INDICATES LENSED OUTER DOTS INDICATE SUSPENDED

LIGHTING FIXTURES, TYPICAL, ROUNE CENTER DOT INDICATES PENDANT DIAGONAL LINE INDICATES LENSED CHEVRON INDICATES WALL WASH

WALL-MOUNTED FIXTURES, TYPICAL

→ DIRECTIONAL LIGHT TRACK FLOOD

EMERGENCY LIGHTING UNIT, CEILING-MOUNTED, INTEGRAL BATTERY

EMERGENCY LIGHTING UNIT, CEILING-MOUNTED, REMOTE BATTERY

EMERGENCY LIGHTING UNIT, WALL-MOUNTED, INTEGRAL BATTERY

EMERGENCY LIGHTING UNIT, WALL-MOUNTED, REMOTE BATTERY

EXIT LIGHT, CEILING-MOUNTED, SHADIN AND ARROWS INDICATE FACES AND DIRECTION

EXIT LIGHT, WALL-MOUNTED, SHADING AND ARROWS INDICATE FACES AND DIRECTION

DIAGONAL HATCH INDICATES LIGHT ON A CRITICAL CIRCUIT

SOLID HATCH INDICATES LIGHT ON AN EMERGENCY OR LIFE SAFETY CIRCUIT

SINGLE POLE SWITCH

3-WAY SWITCH
4-WAY SWITCH
KEYED SWITCH
SWITCH WIPLOT
DIMMER SWITCH

TIME DELAY SWITCH

TIME CONTROL SWITCH

FIRE ALARM HORN

FIRE ALARM SPEAKER WISTROBE

FIRE ALARM STROBE

FIRE ALARM DOOR HOLDER
FIRE ALARM DOOR CLOSER

○○ SPRINKLER FLOW SWITCH

Q

FIRE ALARM PULL STATION FIRE ALARM BELL

FIRE ALARM HORN W/STROBE

FIRE ALARM BELL WISTROBE

FIRE ALARM CHIME W/STROBE

SPRINKLER VALVE TAMPER SWITCH

THERMAL DETECTOR
DUCT SMOKE DETECTOR
CEILING SMOKE DETECTOR

-6-

OCCUPANCY SENSOR WI MANUAL SWITCH OCCUPANCY SENSOR CEILING - ARROWS - INDICATED COVERAGE DIRECTION, "VS = "VACANCY SENSOR"; "DL = "DAYLIGHT SENSOR" TIMER SWITCH

EXIT/ELU COMBO

---- LINEAR LIGHT, TAPE LIGHT

=

ô

Bet et:

STRIP FIXTURE

SYMBOL

DESCRIPTION

DUPLEX RECEPT

-{DESIGNATES SPECIFIC MOUNTING HEIGHT] DUPLEX RECEPT.

GFI DUPLEX RECEPT. (FEED THROUGH)

DUPLEX ISOLATED GROUND RECEPT

FOURPLEX RECEPT, ON EMERG, CIRCUIT

GFI WEATHERPROOF RECEPT.

SPLIT DUPLEX RECEPT.

FLOOR DUPLEX RECEPT.

CEILING DUPLEX RECEPT

FOURPLEX RECEPT.

240V RECEPTACLE

SPECIAL RECEPT.

JUNCTION BOX

RECEPT, ON CORD REEL

FLOOR JUNCTION BOX

MULTIOUTLET ASSEMBLY

SAFETY DISC. SW. (NON-FUSED)

SAFETY DISC. SW. (FUSED)

TELEPHONE OUTLET
FLOOR TELEPHONE OUTLET

FLOOR DATA OUTLET VOICE/DATA OUTLET

MICROPHONE OUTLET

TV OUTLET VOLUME CONTROL

CATV OUTLET

DOOR BELL

DOOR BUZZER

DOOR CHIME DOOR SIGNAL

ELECTRIC STRIKE

MAGNETIC LOCK

DOOR CONTACT

CARD READER SECURITY KEYPAD

MOTION DETECTOR

REVISION NUMBER - SHOWN ON PLANS

(1) KEYED NOTE (SEE SCHEDULE)

ROOM NAME AND NUMBER

ISTING TO REMAIN RELOCATED DEMOLISHED

XX-1 XX-1 XX-1 XX-1

EXISTING TO REMAIN

SEXISTING TO BE REMOVED

NEW

ITEM TO BE REMOVED

AREA NOT IN CONTRACT

NUMBER OF DETAIL ON SHEET
NUMBER OF SHEET WHERE DETAIL APPEARS

PHICAL REPRESENTATION OF PHASING, TYPICAL FOR ALL SYMBOLS

XX.1 → IDENTITY (SEE SCHEDULE)

WAP WIRELESS ACCESS POINT

CLNG CEILING DATA OUTLET

ELECTRICAL ABBREVIATIONS LIST

MOTOR CONTROL CENTER

MAN DISTRIBUTION CENTER

ADD MAN DISTRIBUTION PANEL

MAN DISTRIBUTION PANEL

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MAN

1 POLE (2P, 3P, 4P, ETC.)
AMPERE
ASOVE COUNTER
ASOVE CELLING
AUTOMATIC DOOR OPENER
ASOVE FINISHED FLOOR
ASOVE FINISHED GRADE
ARC FAULT CIRCUIT
INTERRUPTER
ARCHARDLING UNIT
ALTERNATE
AMPERE
AMPERE
AMPLICATOR
AM

XX APPRODUATELY
XX APPRODUATELY
XX APPRODUATELY
XX APPRODUATE
XX APPRODUATE
XX APPRODUCT
XX APPR

HORGEONTAL
HORSEPOWER

ELEC-1 SPECIAL CONNECTIONS. THE EOUIPMENT IS INDICATED BY A NUMBER IN A CIRCLE. SEE THE MOTOR AND EQUIPMENT SCHEDULE FOR THE LOAD SHARMED FOR CONNECTION. THE CIRCLIUT DESIGNATION IS MOTORATED BY NUMBER(S) ADJACENT TO THE SYMBOL. EXAMPLE EQUIPMENT ELECT, I PHASE COMMECTION TO CIRCLIUS.

FLOOR CLEARANCE AREA

MOTOR CONNECTIONS. THE MOTOR IS INDICATED BY A NUMBER WITHIN OF CHARACTERS ADJACENT TO THE MOTOR SYMBOL. SEE THE MOTOR AND EQUIPMENT SCHEDULE FOR THE MOTOR DESCRIPTION AND ELECTRICAL REQUIREMENTS. TRANSFORMERS. THE TRANSFORMER TYPE IS INDICATED BY A NUMBER FOLLOWING THE UPPER CASE LETTER "IT. SEE THE TRANSFORMER SCHEDULE OF THE SINGLE LINE DIAGRAM FOR THE TRANSFORMER DESCRIPTION AND REQUIREMENTS, EXAMPLE: TRANSFORMER TYPE "IT!. T1 CONDUIT IN CEILING, FLOOR OR WALL AS REQUIRED BY FIELD CONDITIONS

CONDUIT IN FLOOR CONDUIT SHOWN WITHOUT SLASH MARKS SHALL CONTAIN 1 # 12 CONDUCTOR PER PHASE, NEUTRAL, AND GROUND IN 1/2" CONDUIT UNLESS SPECIFIC EQUIPMENT REQUIRES A DIFFERENT SIZE. CONDUIT SHOWN SHALL CONTAIN 1 # 10 CONDUCTOR PER PHASE IN ELECTRIC CODE SIZED MINIMUM CONDUIT UNLESS A CONDUCTOR AND CONDUIT SIZE IS SHOWN ADJACENT.

SHOWN ADJANCEN.

NOME RIN TO BRANCH CIRCUIT PANELBOARD. THE PANELBOARD DESIGNATIO

IS SHOWN ADJANCENT TO THE HOME RUN ARROW AS A NUMERATOR AND THE
CIRCUIT DESIGNATION SO SHOWN AS THE DESIGNATION. CIRCUIT BEFAMEN

RESES QUARFARMABER OF FOLESS HAS SHOWN IN THE PANELBOARD SCHEDULE
WITH THE CORRESPONDING PANELBOARD AND CROUT DESIGNATION.

NUMPLE HOME RIN TO PANELBOARD AND CROUT DESIGNATION. P4N-102 1, 3, 5

ELECTRICAL GENERAL NOTES

Prepare a complete maintenance manual covering the equipment furnished including shop drawings, writing diagrams, caladogs, operating and maintenance instructions, information shall be hypowritten or printed maintenia en CODUCTORS OPERATING AT SYLVET'S OF GENERAL PAIL EST RUCKS ON THE COOK OF THE COOK OF SOME THE COOK OF SECTION 260035 - ELECTRICAL PRODUCTS

Maintenance Manual

VOLTAGE CYCLE SMALL BE PLENUM RATED IN PLENUM SPACES.
COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL BLEVATIONS AND DETAILS.
ARCHITECTURAL ELEVATIONS AND DETAILS TAKE PRECEDENCE OVER LOCATIONS SHOWN
ELECTRICAL DRAWINGS. Electrical malerials and equipment, for which such service is available, shall be listed by Underwhiler's Laboratory Inc. (UL), Factory Mutual, or other nationally recognize laboratory. Substitution of Brands of Materials

Instructions to Owner's Personnel

SECTION 260533 - RACEWAYS

SECTION 260513 - WIRES AND CABLES

SECTION 26130 - OUTLET BOXES

SECTION 262726 - WIRING DEVICES

SECTION 26142 - CONNECTIONS TO EQUIPMENT

ELECTRICO, DRAWNISS.

PROVIDE CODULT TAN WISE AS REQUIRED TO ACHEVE CIRCUITING SHOWN, SIZE CONDUCTORS PER NEC AMPROTY MOD WIRE FILL CUTTENA. PROVIDE DEJICATED NUTTENA AND GRADUAD CONDUCTORS FOR CIRCUITING ALLESS MOTION DETERMISE. INCRESSES BRAND AND GRADUAL CONDUCTORS PER CIRCUITING ALLESS AND DICTEMENTS. INCRESSES BRAND CONDUCTORS PROPORTIONALLY FOR NO MORE THAN BY VOLUME DRAFT ON BRANDH CREATED AND 28 OF PROPORTIONALLY FOR NO MORE THAN BY VOLUME DRAFT ON BRANDH CREATED AND 28 OF PERSONS PER SERVERY CODE. Submit request for product substitution in accordance with General Conditions, To be "equivalent" shall mean to possess the same performance qualities and chall the distinsin function without any excression inquisity, similarly and long-necessarily distinct in must be of such some and shape as to fit into be greater with room for exciting where such in excession, in cases used installed explaned in martined causes addition of cold is any other product on the work of the bades, such additional cost chall be borne by the Bidder making the substitution. Refer to luminate schedule and bid form for distinate printing requerements. IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO COORDINATE INSTALLATION OF ELECTRICAL SYSTEMS AND THOSE REQUIRING ELECTRICAL CONNECTIONS TO MAINTAIN NE REQUIRED CLEARANCES, INCLUDED BY NOT LIMITED TO AREAS ABOVE ACCESSIBLE CEILING SECTION 260040 -- CLOSEOUT

COORDINATE WITH OTHER TRADES FOR PROPER INSTALLATION OF EQUIPMENT, CONSULT TH DRAWINGS OF OTHER TRADES OR CRAFTS TO AVOID CONFLICTS WITH EQUIPMENT, ETC. CONFLICTS SHALL BE RESOLVED PRIOR TO ROUGHAN AND AT NO ADDITIONAL COST TO THE CHAMPER UNINEX.
LEAVE THE SITE CLEAN AND READY FOR OCCUPANCY, REMOVE DIRT, DEBRIS, EMPTY
CARTONS, TOOLS, CONDUT AND WIRE SCRAPS AND INSCELLANGUS SPARE EQUIPMENT A
MATERIALS, USED IN THIS DIMSTON OF THE WORK DURING CONSTRUCTION. COMPONENTS
SHALL BE FREE OF DUST, GRIT MOP FOREIGN MATERIALS AND LEFT AS NEW BEFORE FINAL
ACCEPTANCE OF WORK.

THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DAYWINGS SET OF DAMMOS.

PEPERORWORK TO COMPLY WITH THE STANDARD PRACTICES FOR GOOD WORKMANSHIP PUBLISHED BY MATIONAL ELECTRICAL CONTRACTORS ASSOCIATION (NEGA), COMPLY WITH LATEST EMPROGED DEMON OF THE NATIONAL ELECTRICAL COSE, PEGA, LOCAL COMPLY WITH LATEST EMPROGED FROM NOT EMPLOY ALL STANDARD ASSOCIATION (NEGAL COMPLY), AND ORDINANCES.

AMENDICANTS, AND ORDINANCES.

THE DLO CORROWATE PRAIL NECHANICAL AND EQUIPMENT LOCATIONS ALONG WITH CONNECTION REQUIREMENTS AND CONTROL WHITE PRIOR TO ROUGHIN, ADJUST CONTRESSFORMING ENCOUT BEACHER WITHEN SAND SANDE HOLDITIONS ALONG WITH CONNECTION REQUIREMENTS.

CONTESTADATION CARCAIN BROWNER MICHOEVER AND BROWNER GROUND INSECTION.

LECTRICAL WORK SHALL BE FERFORMED UNDER THE SUPPRIVISION OF ALL CIENSED MANTE
LECTRICAL PROCURE FERMITS AND LICENESS AND PAY FEES ASSOCIATED WITH THIS WI
MATERIALS FURNISHED FOR THIS PROJECT SHALL BE NEW, COMMERCIAL GRADE, FREE OF
DEFECTS, AND LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY UND.

PROVIDE COMPLETE OPERATION & MINITENANCE MANUAL INCLUDING APPROVED SUBMITTY DRAWNOS, WARRANTY INFORMATION FOR PRODUCT SUPPLIED AND MANUFACTURES OPERATION AND TENANCE INSTRUCTIONS.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING FINAL WIRING TERMINATIONS TO PRE-INSTALLED RECEPTACES IN OFFICE FURNITURE. CONTRACTOR IS RESPONSIBLE FOR WIRING AND INSTALLING VOICEDATA DEVICES IN OFFICE FURNITURE. COORDINATE PLACEMENT OF DEVICES WITH FURNITURE LAY-OUT. SECURITY SYSTEM TO BE PROVIDED UNDER SEPARATE CONTRACT, IT IS THE RESPONSIBILIT OF THIS CONTRACTOR TO PROVIDE CONDUIT PROVISIONS, BACK BOXES, ROUGHINS, SLEEN AND POWER TO HEAD END COUPIEMT FOR EXACT ROUGHERMENTS PRIOR TO STRATT OF WO

CONTRACTOR SHALL BE RESPONSIBLE FOR WIRING ELECTRICAL ITEMS SHOWN ON DRAW EXCEPT FOR ITEMS LISTED IN NOTE'R' BELOW. EACH TO HIT LAW LISTED IN NOTE OF BLOW.

YOUTHETS, VOID WE CONTROS, TELEPHONE OUTLETS, DATA OUTLETS, AND FIRE ALARM.
DEVICES SHALL CONSIST OF A BLOCK BOX WITH CONDUIT STUBBED ABOVE THE ACCESSING.
ECOLING, SEET SUIT UP DETAIL VERTIFY 222 OF BLACK BOX FOR COURTED WITH DEVICE TO BE
INSTALLED. LOCATE BACK BOXES OF FROM ADJACENT POWER RECEPTACLE INTENDED FOR
COMPUTER USE.

COMPUTE USE

FINISH AND INSTALL CONDUIT FROM SACK SIXES FOR THE FOLLOWING DEVICES INTO THE ACCESSIBLE CELLING SPACE IN THE CORRODOR, UNLESS NOTED OTHERWISE. FOT YOUTHER STATEMENT OF THE CORRODOR UNLESS NOTED OTHERWISE. STATEMENT OF THE CORRODOR STATEMENT OF THE CONTROL OF THE

DEVICES SHOWN AS EXISTING TO REMAIN WITH SYMBOL AS IDENTIFIED ON THIS SHEET TO BE REPLACED WITH NEW DEVICE IN SAME LOCATION, COLOR BY ARCHITECT/OWNER.

SHEET DESCRIPTION DESCRIPTION ELS DESCRIPTION EL 1 BEGRIACATINE SHEET A SPECIATION SE 21 GROUND FLORE ASSETTATION DE MACHINE DE MACHINE AND EL 22 390 A THIFLORO BEGRIACH, DEMACTION PLAN EL 22 390 A THIFLORO BEGRIACH, DEMACTION PLAN EL 21 GROUND FLORE UNITED FLORE ASSETTATION PLAN EL 21 SHOULD FOR UNITED FLORE ASSETTATION PLAN EL 23 SHE FLORE GROUND FLORE ASSETTATION PLAN EL 23 SHE FLORE BEGRIACH SHEET COMM."

ELECTRICAL SHEET INDEX

Gausman
&Moore
Methaliandlicticlipiness
1700 vist Highory 35 - 5600 700
Reaching, Momeat 8111
(81) 85 5000 Fac (190) 1535-8618

GROUND FLOOR ELECTRICAL DEMOLITION PLAN



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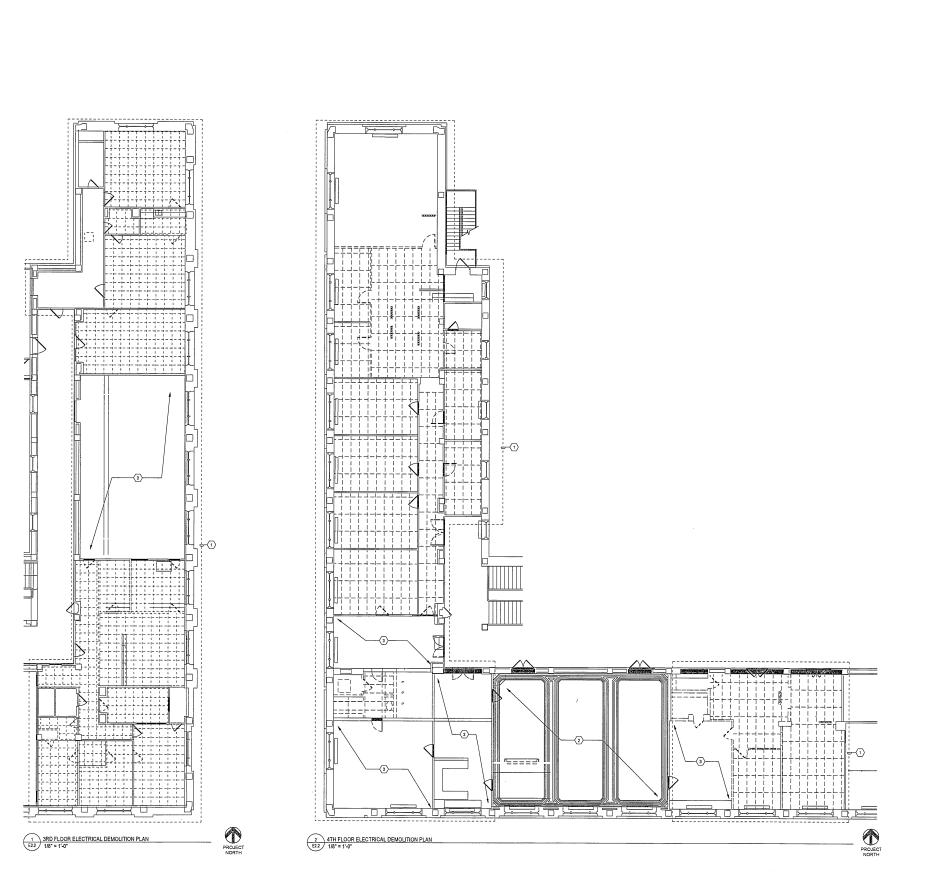


PROJECT NORTH

200 No. 87458 | Date | Issue Da

RW Fern Associates Inc. Architects, 5517 Grand Ave, Duluth, Minnesota 55807 (218) 722-8271 DULUTH CITY HALL - PROJECT # 21- INTERIOR RENOVATIONS - GROUND FLOOR - THIRD FLOOR - FOURTH FLOOR 411 WEST FIRST STREET, DULUTH, MN. 55802

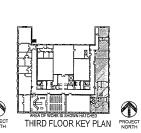
<u></u> 일일





AREA OF WORK IS SHOWN HATCHED
FOURTH FLOOR KEY PLAN
PROJECT
ROCKTH







3RD & 4TH FLOOR ELECTRICAL DEMOLITON PLANS

RW Fern Associates Inc. Architects, 5517 Grand Ave, Duluth, Minnesota 55807 (218) 7 DULUTH CITY HALL - PROJECT # 21- INTERIOR RENOVATIONS - GROUND FLOOR - THIRD FLOOR - FOURTH FLOOR 411 WEST FIRST STREET, DULUTH, MN. 55802

sota 55807 (218) 722-8271

2 GROUND FLOOR POWER PLAN E3.1 1/8" = 1'-0"



Gausman & Moore Methadia and Better Inginess Transment and Better Inginess Transment and Better Inginess Transment Inginess Tra

POWER &

GROUND FLOOR LIGHTING, SYSTEMS PLANS

(218) 722-8271 THIRD FLOOR - FOURTH FLOOR sota 55807 lates Inc. Architects, 5517 Grand Ave, Duluth 5 - GROUND FLOOR - TI DULUTH, MN. 55802

RW Fern Associates Inc. Archi DULUTH CITY HALL - PROJE INTERIOR RENOVATIONS - (

Jab No. 87458 | Date | Issue Date | Drawn By | ALE | Checked By | LAG E3.1

GROUND FLOOR KEY PLAN

(218) Duluth, RW Fern Associates Inc. Architects, 5517 Grand Ave, Dulu DULUTH CITY HALL - PROJECT # 21-INTERIOR RENOVATIONS - GROUND FLOOR - THIRD 411 WEST FIRST STREET, DULUTH, MN. 55802

B7458 Sue Date
Drawn by
ALE Cheeced by:
LAG E3.2

LIGHTING CONTROL MATRIX Open Office Zone #1 (Daylight) pen Office one #2 (Non-Daylight) eeting rooms with exterior windows

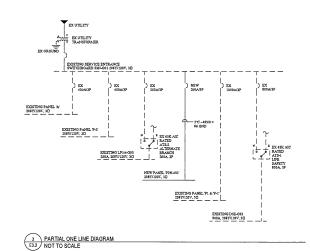
KEYNOTES

- UTILIZE EXISTING 2-CHANNEL WIREWAY AT BASEBOARD, REPLACE EXISTING RECEPTACLE DEVICES WITH NEW AS REQUIRED, COLOR BY ARCHITECT.

- THIS ROOM, REMORE REMAINING SWITCH AND PROVIDE BLANK COVERNATE AS REQUIRED REPLACE DISTINGUISHEAD REMAINING WILL SWITCH FOR CONTROL. UTULE DESTING WILL SWITCH FOR CONTROL. UTULE DESTING WILL SWITCH FOR XOSCOLATE) WITH FERNITURE WHIP TO EXTENT ANALASE. UTULE DESTINGUISHEAD REMAINING BOX ASSOCIATED WITH FERNITURE WHIP TO EXTENT ANALASE. PROVIDE REMAINING THE TIST BUTTON FOR GRO RECEIPTION, EFFORT THE REPRINCEMENT OF THE PROVIDED WHILE ESS DIMMERS SWITCH AS MANUFACTURED BY CIRE MODEL CREE SMART CAST TECHNOLOGY WRIELESS DIMMERS WHITCH AS MANUFACTURED BY CIRE WHIT THEY BY LOUF TROUBLE.

GENERAL NOTES

- D. TYPICAL, PROVIDE SURFACE MOUNT RACEWAY FOR RECEPTACLE AND VOICE/DATA OUTLETS AS REQUIRED TO FACILITATE EXISTING PLASTER/GYP BOARD WALLS TO REMAIN.





#19

5 MEETING ROOM 315

MAY 45 - HYPICAL CORUM FISH MAY 15 - HYPICAL CORUM FISH MA

COPY 312



5 05

TRAINING (7)

OPEN OFFICE

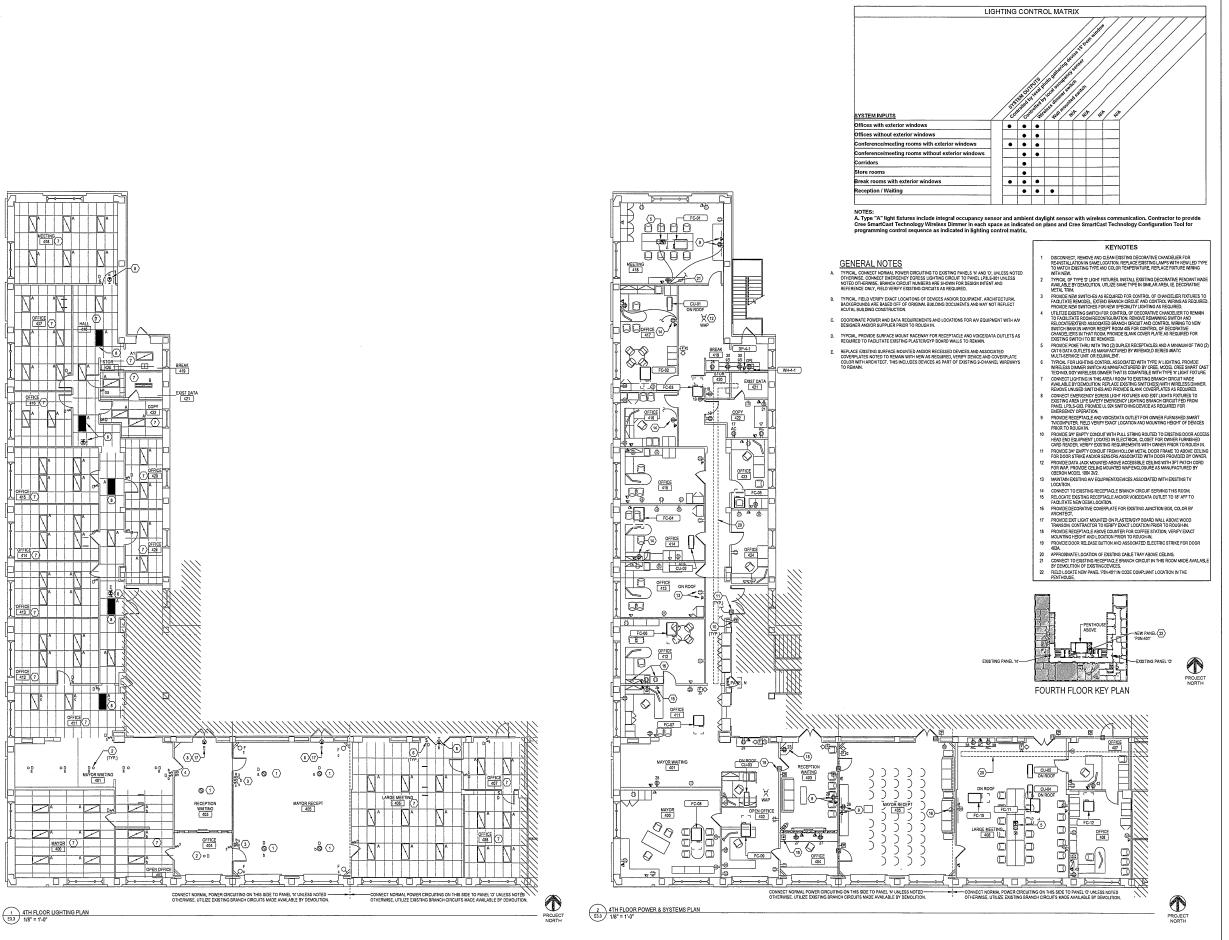
7 3Z3

3RD FLOOR LIGHTING PLAN 1/8" = 1'-0"

PROJECT NORTH

PROJECT NORTH

THIRD FLOOR KEY PLAN



Gausman & Moore Mechaniand Electrical Engineers 1700 West Informacy 26 - Sun 700 Reserving, Minneaus 8113 (61) Stayling Pre (82) 1824-8113 (61) Stayling Pre (82) 1824-8113



⋖ర

4TH FLOOR LIGHTING, POWER SYSTEMS PLANS

RW Fern Associates Inc. Architects, 2017, 2017

DULUTH CITY HALL - PROJECT # 21INTERIOR RENOVATIONS - GROUND FLOOR - THIRD FLOOR - FOURTH FLOOR
411 WEST FIRST STREET, DULUTH, MN. 55802

B7458 Date Date Drawn By: ALE Checked By: LAG Sheet: E3.3

NOTES:

- PROVIDE SWART CAST TECHNOLOGY CONFIGURATION TOOL AS MANUFACTURED BY CREE, MODEL RCCT-CNYC-1 AND CREE SMARTCAST TECHNOLOGY WIRELESS DIMMERS MODEL RCNY-CNYCHI TO ACHIEVE CONTROL AS INDICATED ON LIGHTING CONTROL MATRIX. FIELD VERIFY EXACT QUANTIES.

P3N-401

PANEL NAME: P3N-401

FC-01 - FC-06

SPARE

SPARE

SPARE

SPARE

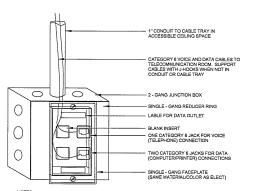
SPARE

SPACE & BUS

SPACE & BUS SPACE & BUS

SPACE & BUS SPACE & BUS

LOCATION: PENTHOUSE



NOTES: 1. TERMINATE VOICE AND DATA OUTLETS WITH 1568B PIN-OUT SEQUENCE. 2. ROUTE CABLES TO TELECOMMUNICATION ROOMS AND TERMINATE ON RACK-MOUNTED CATEGORY 6 PATCH PANELS.

3. LABEL VOICE AND DATA JACK WITH THE TELECOMMUNICATION ROOM NUMBER, PATCH PANEL NUMBER AND JACK POSITION NUMBER (EXAMPLE: 005-A-18).

4. INSTALL BLANK INSERT ON OPEN PORTS WHEN JACKS ARE NOT INSTALLED.

	VOICE DATA DETAIL
E4.1	NOT TO SCALE

			1			1				
	PANEL NAME:	PANEL D	<u> </u>	VOLT	208Y/120		BUS SIZE:	100 AMPS	REMARKS:	
	LOCATION	CLOSET		PH	3		MAIN BRKR	MLO		
	MOUNTING:	SURFACE		WIRE	4		GND BUS:	YES	GFt:	
RM. NO.	LOAD DESCRIPTION		TYPE	BRKR	сст	ССТ	BRKR	TYPE	LOAD DESCRIPTION	RM. N
	TUNNEL LIGHTS		L	20/1		2	20/1	L	TUNNEL LIGHTS	
	LIGHTS LOCKER RM		L	20/1	3	4	20/1	R	RECEPTS TELE RM	-
	LIGHTS RM 18		L	20/1	5	6	20/1	L	LIGHTS CAFÉ & HALL	
	RECEPTS RM 105		R	20/1	7	8	20/1	L	LIGHTS RM 17	
	LIGHTS RM 17		L	20/1	9	10	20/1	R	MEETING G15 RCPTS	
	HOTEL G14 RCPTS		R	20/1	-11	12	20/1	L	LIGHTS RM 17	
	HOTEL G14 RCPTS		R	20/1	13	14	20/1	R	FAN TELE RM	
	RECEPTS CLOSET		R	20/1	15	16	30/1	R	OFFICE G13 RCPTS	
	VENDING RECEPT		R	20/1	17	18	20/1	R	RECEPTS TELE RM	
	LIGHTS VENDING		L	20/1	19	20	20/1	L	LIGHTS TELE RM	
	AC		м	20/	21	22	20/1	L	LIGHTS & RCPT STORAGE	
			м	2	23	24	20/1	R	FAN & TELE RECEPTS	
	SPARE			20/1	25	26	30/1	R	VENDING RECEPT	
	AC		м	20/	27	28	30/1	R	VENDING RECEPT	
			M	2	29	30	20/1		TICKETS G10 RCPTS	

	PANEL NAME:	PANEL N		VOLT	208Y/120		BUS SIZE:	225 AMPS	REMARKS:	
	LOCATION:	CLOSET		PH:	3		MAIN BRKR	MLO		
	MOUNTING:	SURFACE		WIRE	4		GND BUS:	YES	GFI:	
RM. NO.	LOAD DESCRIPTION		TYPE	BRKR	сст	сст	BRKR	TYPE	LOAD DESCRIPTION	RM. N
	MAYOR'S OFF RCPTS		R	20/1	1	2	20/1	L	OFFICE LIGHTS	"
	CHIEF ADMIN RCPTS		R	20/1	3	4	20/1	L	CHIEF ADMIN LIGHTS	
	OFFICE RECEPTS		R	20/1	5	6	20/1	R	CHIEF ADMIN RCPTS	
	MAYOR'S OFF RCPTS		R	20/1	7	8	20/1	R	OFFICE RECEPTS	
	MAYOR'S OFF LIGHTS		L	20/1	9	10	20/1	R	OFFICE RECEPTS	
	MAYOR'S REC LIGHTS		L	20/1	11	12	20/1	R	OFFICE RECEPTS	
	MAYOR'S OFF LIGHTS		L	20/1	13	14	20/1	L	LIGHTS	
	OFFICE RECEPTS		R	20/1	15	16	20/1	L	OFFICE LIGHTS	
	COPY RM 422 RECEPTS		R	20/1	17	18	20/1	L	OFFICE, HALL LIGHTS	
	STORAGE & COPY RM RCPT:	s	R	20/1	19	20	20/1	L	MAIN RECEPT LIGHTS	
	COPY MACHINE		R	20/1	21	22	20/1	L	MAIN RECEPT LIGHTS	
	COFFEE RECEPT		R	20/1	23	24	20/1	L	MAYOR'S SEC LIGHTS	
	MAYORS WAITING RCPTS		R	20/1	25	26	20/1	R	RECEPTS RM 407	
	OFFICE 404 RECEPTS		R	20/1	27	28	20/1	R	BREAK 419 REFRIGERATOR	
	MAYOR RCPT & WAIT TV RCI	PT T	R	20/1	29	30	20/1	R	BREAK 419 RECEPTS	
	COPY MACHINE		R	20/1	31	32	20/1	R	OFFICE RECEPTS	
	RECEPTS N END WING		R	20/1	33	34	20/1	R	HALL RCPTS	
	RCPTS & TRACK RECEPT		R	20/1	35	36	20/1	R	PENTHOUSE RECEPTS	
	FC-01 - FC-06		м	20	37	38	20/1	R	COPY MACHINE RM 410	
			м	12	39	40	20/1	R	OFFICE RECEPTS	
	DP-4-1		м	20/1	41	42	20/1	R	POWER POLE NORTH	

	PANEL NAME:	PANEL O	<u> </u>	VOLT:	208Y/120	-	BUS SIZE:	225 AMPS	REMARKS:	
	LOCATION	CLOSET	_	PH:	3		MAIN BRKR:	MLO		
	MOUNTING:	SURFACE		WIRE:	4		GND BUS:		GFI:	
RM, NO.	LOAD DESCRIPTION		TYPE	BRKR	CCT	сст	BRKR	TYPE	LOAD DESCRIPTION	RM.
	RECEPTS 406		R	20/1	1	2	20/1	R	RECEPTS RM 407	
	RECEPTS		R	20/1	3	4	20/1	R	RECEPTS	
	OUTLETS BY SAUNA		R	20/1	5	6	20/1	R	RECEPTS	
	POWER POLE		R	20/1	7	8	20/1	L	LIGHTS LAVATORY	
	RECEPT RM 413 & COPY		R	20/1	9	10	60	м	MAKE-UP AIR	
	LIGHTS RM 409		L.	20/1	11	12	/2	м		
	LIGHTS & RECEPT RM 4	07	L	20/1	13	14	20/1	L	LIGHTS RM 406	
	RECEPTS LAB		R	20/1	15	16	20/1	R	RECEPTS LAB	
	RECEPTS LAB		R	20/1	17	18	20/1	R	RECEPTS LAB	
	SPARE			20/1	19	20	20/1	L	LIGHTS RM 408	
	CONFERENCE ROOM		R	20/1	21	22	20/1	L	LIGHTS RM 411	
	SPARE			20/1	23	24	20/1	R	OFFICE 4 & 5	
	PLANNING LIBRARY		R	20/1	25	26	20/1	R	PLANNING LIBRARY	
	RECEPTS 4 & 5		R		27	28	20/1	R	RECEPTS 4 & 5	
	RECEPTS 4 & 5		R	20/1	29	30	20	N	AIR RADIO SIREN	
	LIGHTS & RCPTS RM 40	7	L	20/1	31	32	/2	N		
	WH-4-1		С	25	33	34	20/1	R	HALL OUTLET	
			с	12	35	36	20/1	R	COPY MACHINE	
	FC-07 - FC-12		м	20	37	38	20/1	R	LARGE MTG 406 RCPTS	
			м	12	39	40	20/1	L	LIGHTS RM 406	
	SPARE			20/1	41	42	20/1	R	OFFICE 407 & 408 RCPTS	

	PANEL NAME:	S3N-G01		VOLT:	208Y/120		BUS SIZE:	2000 AMPS	REMARKS:	
	LOCATION	ELEC RM		PH:	3		MAIN BRKR:	2000 AMPS		
	MOUNTING:			WIRE:	4		GND BUS:	YES	GFI:	1
RM. NO.	LOAD DESCRIPTION		TYPE	BRKR	сст	сст	BRKR	TYPE	LOAD DESCRIPTION	RM. N
	PANEL 'A'			400	1	2	400		PANEL 'P-3'	
	LOCATED IN RM 2011	Ε		1			,			
				3			3			
	PANEL 1.P3A-G05			200	3	4	200		PANEL 'P3N-401'	
	WA ATS-2			,			,		75.02	
				3			3			
	PANEL 'P-1' & 'P-2'			1000	5	6				1
				,					'	
				3					'	
	SPARE			1000	7	a			· ·	_
	SPARE			/	l '	۰				
			-	3						+
	SPACE & BUS				9	10			SPACE & BUS	
	SPACE & BUS								SPACE & BUS	
	SPACE & BUS		_			-			SPACE & BUS	-
	PANEL 'D3E-G02'			800	11	12			-	
	VIA ATS-1			/					-	
	-			3					<u> </u>	1
	SPACE & BUS				13	14			SPACE & BUS	
	SPACE & BUS								SPACE & BUS	
	SPACE & BUS								SPACE & BUS	

ANEL A			_						
	PANEL NAME:	PANEL A		VOLT	208Y/120		BUS SIZE:	225 AMP.	SREMARKS:
	LOCATION:	CLOSET		PH:	3		MAIN BRKR:	MLO	
	MOUNTING:	SURFACE	_	WIRE	4		GND BUS	YES	GFI:
RM, NO.	LOAD DESCRIPTION		TYPE	BRKR	сст	сст	BRKR	TYPE	LOAD DESCRIPTION
	SPARE		L.	20/1	1	2	20/1		SPARE
	SPARE			20/1	3	4	20/1		LIEUT'S LIGHTS
	SPARE			20/1	5	6	20/1	R	OFFICE G33 FURN.
	INTERVIEW RECEPTS			20/1	7	8	20/1	R	OFFICE G33 FURN,
	POLICE DEPT LIGHTS			20/1	9	10	20/1	R	OFFICE G33 FURN,
	POLICE CORR LIGHTS			20/1	11	12	20/1	R	OFFICE G33 FURN,
	DOOR OPENERS			20/1	13	14			SPACE
	DOOR OPENERS			20/1	15	16	20/1		OFFICE FURNITURE
	DOOR OPENERS			20/1	17	18			SPACE
	SPARE			20/1	19	20	20/1		OFFICE FURNITURE
	SPARE			20/1	21	22	20/1		OFFICE FURNITURE
	BREAK G34 REFRIG.		R	20/1	23	24	30		A/C UNIT
	OFFICE G20/22 FURN.		R	20/1	25	26	/		
	OFFICE G20/22 FURN.		R	20/1	27	28	3		
	WORK G22 RPCTS		R	20/1	29	30	20/1		RECEPTS THIS CAB
	HALLWAY RCPTS		R	20/1	31	32	20/1		SPARE
	BREAK G34 RECEPTS		R	20/1	33	34	20/1		SPARE
	BREAK G34 RECEPTS		R	20/1	35	36	20/1		SPARE
	SPARE		-	50	37	38			SPACE
	[
				3	39	40			SPACE SPACE

													ELEC1	RICAL EQUI	PMENT SCH	EDULE								
	LOCATION		I		EQUIF	PMENT INF	ORMATION	1			CIRCUIT INFORMATION					STARTER			CONTROL			DISC		
ID	NAME	NO		OTOR POWER	REAL POWER	FLA	MCA	MOCP	VOLT	РН	PANEL	NO.	APPARENT LOAD	LOAD CLASSIFICATION	WIRE & CONDUIT	DESCRIPTION	FURNISH	INSTALL	DESCRIPTION	FURNISH	INSTALL	DESCRIPTION	FURNISH	REMARKS
Condensing															1		1	1.000,000	Descript Hole	Treidilon	HOTALL	DEGOIG! HOW	1 totalion 1	TO MANAGE !
CU-01	GRADE		1	0,25 hp	6905 W	33.2 A	33.2 A	35.0 A	208 V	1	PANEL P3N-401	1,3	6906 VA	MN	2#10,#10G,1/2°C	MANUF - SINGLE POINT POWER	MANUF.	MANUF.	DIV, 23 - THERMOSTAT	DIV. 23	DIV. 23	DIV. 26 - NON-FUSED SWITCH	DIV. 26	
CU-02	GRADE		1	0.25 hp	6905 W	33.2 A	33.2 A	35.0 A	208 V	1	PANEL P3N-401	2,4	6905 VA	MN	2#10,#10G,1/2°C	MANUF - SINGLE POINT POWER	MANUF,	MANUF.	DIV. 23 - THERMOSTAT	DIV. 23		DIV. 26 - NON-FUSED SWITCH	DIV. 26	
CU-03	GRADE	<u> </u>	1 1	0,25 hp	6905 W	33,2 A	33,2 A	35,0 A	208 V	1	PANEL P3N-401	5,7	6905 VA	MN	2#10,#10G,1/2°C	MANUF - SINGLE POINT POWER	MANUF.	MANUF.	DIV, 23 - THERMOSTAT	DIV. 23	DIV 23	DIV. 26 - NON-FUSED SWITCH	DIV. 26	
CU-04	GRADE		1	0.25 hp	6905 W	33.2 A	33.2 A	35.0 A	208 V	1	PANEL P3N-401	6,8	6905 VA	MN		MANUF - SINGLE POINT POWER	MANUF.		DIV. 23 - THERMOSTAT	DIV. 23		DIV. 26 - NON-FUSED SWITCH	DIV. 26	
CU-05	GRADE	-	1 1	0.25 hp	6905 W	33.2 A	33.2 A	35.0 A	206 V	1	PANEL P3N-401	9,11	6905 VA	MN	2#10,#10G,1/2°C	MANUF - SINGLE POINT POWER	MANUF.	MANUF.	DIV. 23 - THERMOSTAT	DIV. 23	DIV. 23	DIV. 26 - NON-FUSED SWITCH	DIV. 26	
Fan Coil																								
FC-01	MEETING	418	1	0,13 hp	160 W	0.8 A	1.0 A	15,0 A	208 V	1	PANEL P3N-401	13,15	160 VA	MN	2#12,#12G,1/2°C	MANUF - SINGLE POINT POWER	MANUF.	MANUF.	DIV. 23 - THERMOSTAT	DIV. 23	DIV. 23	DIV. 26 - NON-FUSED SWITCH	DIV. 26	
FC-02	OFFICE	417	1	0.13 hp	160 W	0.8 A	1.0 A	15,0 A	208 V	1	PANEL P3N-401	13,15	160 VA	MN		MANUF - SINGLE POINT POWER	MANUF.	MANUF.	DIV. 23 - THERMOSTAT	DIV. 23	DIV. 23	DIV. 26 - NON-FUSED SWITCH	DIV. 26	
FC-03	HALL	410	1	0,13 hp	160 W	0.8 A	1.0 A	15,0 A	208 V	1	PANEL P3N-401	13,15	160 VA	MN	2#12,#12G,1/2°C	MANUF - SINGLE POINT POWER	MANUF,	MANUF.	DIV. 23 - THERMOSTAT	DIV. 23	DIV. 23	DIV. 26 - NON-FUSED SWITCH	DIV. 26	
FC-04	OFFICE	414	1	0.13 hp	160 W	0.8 A	1.0 A	15.0 A	208 V	1	PANEL P3N-401	13,15	160 VA	MN		MANUF - SINGLE POINT POWER	MANUF.	MANUF.	DIV. 23 - THERMOSTAT	DIV. 23	DIV. 23	DIV. 26 - NON-FUSED SWITCH	DIV. 26	
FC-05	OFFICE	423	1	0.13 hp	160 W	0.8 A	1.0 A	15.0 A	208 V	1	PANEL P3N-401	13,15	160 VA	MN		MANUF - SINGLE POINT POWER	MANUF.	MANUF.	DIV. 23 - THERMOSTAT	DIV. 23	DIV. 23	DIV. 26 - NON-FUSED SWITCH	DIV. 26	
FC-06	OFFICE	412	1	0,13 hp	160 W	0.8 A	1.0 A	15,0 A	208 V	1	PANEL P3N-401	13,15	160 VA	MN		MANUF - SINGLE POINT POWER	MANUF.	MANUF.	DIV. 23 - THERMOSTAT	DIV. 23	DIV. 23	DIV. 26 - NON-FUSED SWITCH	DIV, 26	
FC-07	OFFICE	411	1	0,13 hp	160 W	0.8 A	1,0 A	15,0 A	208 V	1	PANEL P3N-401	10,12	160 VA	MN		MANUF - SINGLE POINT POWER	MANUF.	MANUF,	DIV. 23 - THERMOSTAT	DIV. 23	DIV. 23	DIV, 26 - NON-FUSED SWITCH	DIV. 26	
FC-08	MAYOR	400	1	0.13 hp	160 W	0.8 A	1.0 A	15.0 A	208 V	1	PANEL P3N-401	10,12	160 VA	MN	2#12,#12G,1/2°C	MANUF - SINGLE POINT POWER	MANUF.	MANUF.	DIV. 23 - THERMOSTAT	DIV. 23	DIV. 23	DIV. 26 - NON-FUSED SWITCH	DIV. 26	
FC-09	OPEN OFFICE	402	1	0.13 hp	160 W	0.8 A	1.0 A	15.0 A	208 V	1 1	PANEL P3N-401	10,12	160 VA	MN	2#12,#12G,1/2°C	MANUF - SINGLE POINT POWER	MANUF.	MANUF.	DIV. 23 - THERMOSTAT	DIV. 23	DIV. 23	DIV. 26 - NON-FUSED SWITCH	DIV. 26	
FC-10	LARGE MEETING	406	1	0.13 hp	160 W	0.8 A	1.0 A	15.0 A	208 V	1	PANEL P3N-401	10,12	160 VA	MN		MANUF - SINGLE POINT POWER	MANUF.	MANUF.	DIV. 23 - THERMOSTAT	DIV. 23	DIV. 23	DIV. 26 - NON-FUSED SWITCH	DIV. 26	
FC-11	LARGE MEETING	406	1	0,13 hp	160 W	0.8 A	1.0 A	15,0 A	208 V	1	PANEL P3N-401	10,12	160 VA	MN	2#12,#12G,1/2°C	MANUF - SINGLE POINT POWER	MANUF.	MANUF.	DIV. 23 - THERMOSTAT	DIV. 23	DIV. 23	DIV. 26 - NON-FUSED SWITCH	DIV. 26	
FC-12	OFFICE	408	1 1	0,13 hp	160 W	0,8 A	1,0 A	15,0 A	208 V	1	PANEL P3N-401	10,12	160 VA	MN	2#12,#12G,1/2°C	MANUF - SINGLE POINT POWER	MANUF.	MANUF,	DIV. 23 - THERMOSTAT	DIV. 23	DIV. 23	DIV. 26 - NON-FUSED SWITCH	DIV. 26	
Pump																								
DP-4-1	BREAK	419	1	0,40 hp	540 W	4.5 A	5,6 A	15,0 A	120 V	1	PANEL N	41	540 VA	WN	2#12,#12G,1/2°C	MANUF - SINGLE POINT POWER	MANUF.	MANUF.	DIV. 23 - AQUASTAT	DIV. 23	DIV. 23	DIV. 26 - NON-FUSED SWITCH	DIV. 26	CORD & PLUG CONNECTION
Water Heate																								
WH-3-1	MEETING ROOM	315			4100 W	20,0 A	20,0 A	20,0 A	208 V		PANEL M	34,36	4100 VA	С	2#12,#12G,1/2°C	MANUF - SINGLE POINT POWER	MANUF.	MANUF,	DIV. 23 - THERMOSTAT	DIV. 23	DIV. 23	DIV. 26 - NON-FUSED SWITCH	DIV. 26	
WH-4-1	BREAK	419			4100 W	20.0 A	20,0 A	20,0 A	208 V	1	PANEL N	37,39	4100 VA	С	2#12,#12G,1/2°C	MANUF - SINGLE POINT POWER	MANUF.	MANUF.	DIV. 23 - THERMOSTAY	DIV. 23	DIV. 23	DIV. 26 - NON-FUSED SWITCH	DIV. 26	

	PANEL NAME:	PANEL E	┝	VOLT:	208Y/120	_	BUS SIZE:	225 AMPS	REMARKS:	
	LOCATION: CLOSE				3	_	MAIN BRKR:	MLO		,_
	MOUNTING:	SURFACE	_	WIRE	4		GND BUS:	YES	GFI;	
RM, NO,	LOAD DESCRIPTION		TYPE	BRKR	CCT	сст	BRKR	TYPE	LOAD DESCRIPTION	R
	RECEPTACLES RM 11			20/1	. 1	2	20/1		RECEPTACLES RM 8	
	RECEPTACLES RM 7			20/1	3	4	20/1		RECEPTS JUV. AID	
	LIGHTS HALL			20/1	5	6	20/1		SPARE	
	LIGHTS RM 8				7	8	20/1		LIGHTS RM 7	Γ
	LIGHTS HALL			20/1	9	10	20/1		LIGHTS DESK SARG.	
	SPARE			20/1	- 11	12	20/1		SPARE	
	LIGHTS HALL			20/1	13	14	20/1		LIGHTS HALL	Γ
	RECEPTACLES RM 9-10	9		20	15	16	20			
				/	17	18	/			
				3	19	20	3			L
	TAPE RECORDER			20/1	21	22	20/		RECEPTS DETECTIVES	
	RECEPT TELEPHONE			20/1	23	24	2			
	RECEPTS NARCOTICS			20	25	26	30/1		SPARE	
				1	27	28	20/1		SPARE	
				3	29	30	20/1		FIRE ALARM PANEL	
	RECEPT ASST, CHIEF			20/1	31	32	20/1	R	MTG G26 FLOOR BOX	
	RECEPT TELEPHONE			20/1	33	34	20/1		SPARE	
				20/1	35	36	20/1		SPARE	
				20/1	37	38	20		COPIER OUTLET	
				20/1	39	40	/			
				20/1	41	42	3			1

P3N-401

FC-07 - FC-12

SPARE

SPARE SPARE

SPARE SPARE

SPARE SPARE

SPARE

SPACE & BUS

SPACE & BUS SPACE & BUS

SPACE & BUS SPACE & BUS SPACE & BUS

VOLT:208Y/120 BUS SIZE: 225 AMPS REMARKS:

E PH: 3 MAN BRICK: 290 AMPS PUTURE
WRE 4 CND BUS: YES
1YPE BRICK CCT COT BRICK TYPE LOAD DECC
35 1 2 35 M CU-02
1/2 3 4 1/2 M CU-02

35 5 6 35 2 7 8 /2

							-	1	1	PANE
	PANEL NAME:	PANEL M	Щ.	VOLT:	208Y/120		BUS SIZE:	225 AMPS	REMARKS:	
	LOCATION:	CLOSET	L	PH:	3		MAIN BRKR:	MLO		
	MOUNTING:	SURFACE		WIRE:	4		GND BUS:	YES	GFI	
RM, NO,	LOAD DESCRIPTION		TYPE	BRKR	сст	CCT	BRKR	TYPE	LOAD DESCRIPTION	RM, N
	RECEPTACLES RM 30.	3	R	20/1	1	2	20/1	R	RECEPTS RM 324	
	TRAIN 314A RECEPTS		R	20/1	3	4	20/1	R	COPY MACHINE	
	TRAIN 314A RECEPTS		R	20/1	5	6	20/1	L	LIGHTS, RECEPTS 317	
	LIGHTS RM 312		L	20/1	7	8	20/1	L	LIGHTS RM 310	
	LIGHTS RM 313-314		L	20/1	9	10	20/1	L	LIGHTS HALL 313-314	
	LIGHTS		L	20/1	11	12	20/1	L	LIGHTS RM 303	
	EXISTING LOAD			20/1	13	14	20/1	R	OFFICE 314 FURN,	
	MTG RM FLOOR BOX		R	20/1	15	16	20/1	R	OFFICE 314 FURN.	
	EXISTING LOAD			20/1	17	18	20/1	R	OFFICE 314 FURN.	
	OFFICE 322 FURN.	-	R	20/1	19	20	20/1	R	311-312 RECEPTS	
	OFFICE 323 FURN.		R	20/1	21	22	20/1	R	311-312 RECEPTS	
	SPARE		R	20/1	23	24	20/1	R	RECEPTS RM 303	
	RECEPT HALL		R	20/1	25	26	20/1	L	LIGHTS RM 309	
	IT RECEPT		R	20/1	27	28	20/1	R	RECEPT FILE ROOM	
	SPARE			20/1	29	30	20/1	R	OUTLETS FILE ROOM	
	SPARE			20/1	31	32	20/1	R	OUTLETS RM 315	
	OUTLETS RM 303		R	20/1	33	34	25	С	WH-3-1	
	TRAIN 314A FURN.		R	20/	35	36	12	c		
			R	2	37	38	20/1	R	MTG RM 315 RECEPTS	
	COMPUTER OUTLETS		R	20/	39	40	20/1		MTG RM 315 RECEPTS	
			R	2	41	42	20/1		MTG RM 315 REFRIG	

GFI:
DESCRIPTION RM, NO. LIGHTS G33 FURN. G33 FURN, G33 FURN. G33 FURN. FURNITURE FURNITURE FURNITURE

PANEL A

RW Fern Associates Inc. Architects, 5517 Grand Ave, Duluth, Minne DULUTH CITY HALL - PROJECT # 21-INTERIOR RENOVATIONS - GROUND FLOOR - THIRD FLOOR - 411 WEST FIRST STREET, DULUTH, MN. 55802

(218)

Gausman &Moore Mechanical and Electrical Enginees 1700 West Ingrinees, Miniscons, SIGNITI (801) Project No. (1978) 1878

DETAIL

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SCHEDULES

ELECTRICAL

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